

Lead-Free Family Summary Sheet-Resistor Components

Product Description		Pb Free "2nd-Level Interconnect" Status										Soldering					RoHS Status					China Pollution Act Information (ST/T11363-2006)							PCN-Status	
Technology/ Product Line	Product Family	Wafers/ Division	Pb-free Qual. Complete and Report Available (QTY)	Pb-free Samples available (QTY)	Pb-free Mass production (QTY)	Termination Finish	Underlayer	Lead or Base material	How to Order-Web (Lead Free)	Tin Lead (SnPb) Information available after Conversion	Molature Sensitivity Level	PC/IEEC-JSTD-020C compliant (Temp. Peak T _p in °C/Time Peak in hr sec./Days)	Backward Compatibility	RoHS Qual. Complete and Report Available (QTY)	RoHS-Comp. Samples (QTY)	RoHS-Comp. Mass production (QTY)	Exemptions Used	China ROHS Compliant (YES/NO) 符合/不符合	EPUP (YES/NO) 符合/不符合	Location of Hazardous Substance(s) 有害物质所在地 所在国家	Pb 铅 X for C-MCV O for C-MCV (SJ/T11363-2006)	Hg 汞 X for C-MCV O for C-MCV (SJ/T11363-2006)	Cd 镉 X for C-MCV O for C-MCV (SJ/T11363-2006)	Cr(VI) 六价铬 X for C-MCV O for C-MCV (SJ/T11363-2006)	PBB 多溴联苯 X for C-MCV O for C-MCV (SJ/T11363-2006)	PBDE 多溴二苯醚 X for C-MCV O for C-MCV (SJ/T11363-2006)	Product Change Notification Ref. / Refs	Product Change Notification Date		
Leaded Film	SFR25 / SFR25H / SFR16S	BC	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN/IND/01/2005	23 Mar 2004		
Leaded Film	NFR25 / NFR25H	BC	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN/IND/01/2006	23 Mar 2004		
Leaded Film	PR01 / PR02 / PR03	BC	✓	✓	✓	100% Sn	Ni	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN/IND/01/2007	23 Mar 2004		
Leaded Film	UXA. / UXB. / UXE...	BE	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 410A/2004	23 Mar 2004		
Leaded Film	MPR...	BE	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 410A/2004	23 Mar 2004		
Leaded Film	MBA. / MBB. / MBE. Prof.	BE	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	NA	NA		
Leaded Film	CBB0207	BE	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	NA	NA		
Leaded Film	MBA. /MBB. /MBE. Prec.	BE	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	NA	NA		
Leaded Film	MBA0204HF	BE	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	NA	NA		
Leaded Film	MRS16 / MRS25	BE	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	NA	NA		
Leaded Film	CCF-55 / -07	BC/DR	✓	✓	✓	100% Sn	None	Cu	For Lead Free ordering code, please refer to the current data sheet!	TBD	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16 / 2004	23 Mar 2004		
Leaded Film	SMA0309, SMA0411, SMA0411HF	DR	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16 / 2004	23 Mar 2004		
Leaded Film	SMA0204, SMA0204HF, SMA0207, SMA0207HF	DR	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16 / 2004	23 Mar 2004		
Leaded Film	OMA0204, OMA0207, HMA0207, ZMA0411	DR	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16 / 2004	23 Mar 2004		
Leaded Film	MK4, MK5, MK8	DR	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16 / 2004	23 Mar 2004		
Leaded Film	PMA0207	DR	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16 / 2004	23 Mar 2004		
Leaded Film	NMA0207, NMA0411, NK4, NK5	DR	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16 / 2004	23 Mar 2004		
Leaded Film	NMA0207SI, NMA0309SI, NMA0411SI	DR	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16 / 2004	23 Mar 2004		
Leaded Film	SXA0411, SXA0617, SXA0922, SXA0933	DR	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16 / 2004	23 Mar 2004		
Leaded Film	LCA0204, LCA0207, LCA0411, LCA0617, LCA0922, LCA0933	DR	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16 / 2004	23 Mar 2004		
Leaded Film	LCA0207SI, LCA0411SI, LCA0617SI	DR	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16 / 2004	23 Mar 2004		
Leaded Film	WK2, WK4, WK5, WR4, WR5	DR	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16 / 2004	23 Mar 2004		
MELF	MMU. /MMA. /MMB.	BE	✓	✓	✓	100% Sn	Ni, Cu, NP	steel	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	NA	NA		
MELF	SMM0204 / OMM0204	DR	✓	✓	✓	100% Sn	NP	steel	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN QW 0408	09 Mar 2003		
MELF	PMM0204	DR	✓	✓	✓	100% Sn	NP	steel	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN QW 0408	09 Mar 2003		
MELF	SMM0207 / OMM0207	DR	✓	✓	✓	100% Sn	NP	steel	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN QW 0408	09 Mar 2003		
MELF	PMM0207	DR	✓	✓	✓	100% Sn	NP	steel	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN QW 0408	09 Mar 2003		
MELF	LCM0207	DR	✓	✓	✓	100% Sn	NP	steel	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN QW 0408	09 Mar 2003		
MELF	SMM0102 / OMM0102	DR	✓	✓	✓	100% Sn	NP	steel	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN QW 0408	09 Mar 2003		
MELF	LCM0207 Si/ NMM0207 Si	DR	✓	✓	✓	100% Sn	NP	steel	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN QW 0408	09 Mar 2003		
Leaded Metal Film	HVV	DL	1/06	2/05	4/05	100% Sn matte	SnCu IMC	Cu	New Package Code-Click for Link	YES	1	260/10/3	UT	1/06	4/05	4/05	None	YES	NA		O	O	O	O	O	O	NA	NA		
Leaded Metal Film	MVV	DL	NA	NA	NA	No Plating	NA	Cu clad steel	New Package Code-Click for Link	NO	1	✓	✓	NA	NA	NA	None	YES	NA		O	O	O	O	O	O	NA	NA		
Leaded Metal Film	CCF2	DL	1/06	2/05	4/05	100% Sn matte	SnCu IMC	Cu	New Package Code-Click for Link	YES	1	260/10/3	✓	1/06	4/05	4/05	None	YES	NA		O	O	O	O	O	O	NA	NA		
Leaded Metal Film	CCF07	DL	✓	✓	✓	100% Sn matte	SnCu IMC	Cu	New Package Code-Click for Link	TBD	1	✓	✓	✓	1/05	None	YES	NA		O	O	O	O	O	O	O	PCN 16 / 2004	23 Mar 2004		
Leaded Metal Film	CCF50	DL	1/06	2/05	4/05	100% Sn matte	SnCu IMC	Cu	New Package Code-Click for Link	YES	1	260/10/3	✓	1/06	4/05	4/05	None	YES	NA		O	O	O	O	O	O	NA	NA		
Leaded Metal Film	CCF55	DL	✓	✓	✓	100% Sn matte	SnCu IMC	Cu	New Package Code-Click for Link	TBD	1	✓	✓	✓	1/05	None	YES	NA		O	O	O	O	O	O	O	PCN 16 / 2004	23 Mar 2004		
Leaded Metal Film	CCF60	DL	1/06	2/05	4/05	100% Sn matte	SnCu IMC	Cu	New Package Code-Click for Link	YES	1	260/10/3	✓	1/06	4/05	4/05	None	YES	NA		O	O	O	O	O	O	NA	NA		
Leaded Metal Film	FRJ	DL	1/06	2/05	4/05	100% Sn matte	SnCu IMC	Cu	New Package Code-Click for Link	YES	1	260/10/3	✓	1/06	4/05	4/05	None	YES	NA		O	O	O	O	O	O	NA	NA		
Leaded Metal Film	CMF	DL	1/06	2/05	4/05	100% Sn matte	SnCu IMC	Cu	New Package Code-Click for Link	YES	1	260/10/3	✓	1/06	4/05	4/05	None	YES	NA		O	O	O	O	O	O	NA	NA		
Leaded Metal Film	PTF	DL	1/06	2/05	4/05	100% Sn matte	SnCu IMC	Cu	New Package Code-Click for Link	YES	1	260/10/3	✓	1/06	4/05	4/05	None	YES	NA		O	O	O	O	O	O	NA	NA		
Leaded Metal Film	CPF	DL	1/06	2/05	4/05	100% Sn matte	SnCu IMC	Cu	New Package Code-Click for Link	YES	1	260/10/3	✓	1/06	4/05	4/05	None	YES	NA		O	O	O	O	O	O	NA	NA		
Leaded Metal Film	FP	DL	1/06	2/05	4/05	100% Sn matte	SnCu IMC	Cu	New Package Code-Click for Link	YES	1	260/10/3	UT	1/06	4/05	4/05	RoHS Annex 5 - Pb in glass	YES	NA		O	O	O	O	O	O	NA	NA		
Angstrom Metal Film	Precision Metal Film, Hermetic Resistors	AN	NO	✓	✓	Au	Ni		Standard Part number	YES	NO	NO	✓	✓	✓	✓										No	37990			
Angstrom Rheostats	Power Rheostats MPXX	AN	NO	✓	✓	SnAg	Cu		Standard Part number	YES	NO	NO	✓	✓	✓	✓										No	37990			
FIXED RESISTORS-FILM	RCMS/T/E/Y/A/X/M ROP	SF	✓	✓	✓	100% Sn	None	Cu	Standard Part number	NO	1	260/20/3	✓	✓	✓	✓		YES	NA		O	O	O	O	O	O	NA	NA		
FIXED RESISTORS-FILM	RCMT 01	SF	4/04	4/04	4/04	100% Sn	None	Cu	Standard Part number	NO	1	260/20/3	✓	4/04	4/04	4/04		YES	NA		O	O	O	O	O	O	PCN Lead Free	3/04		
FIXED RESISTORS-FILM	N.3/N.4/N.5	SF	4/04	4/04	4/04	100% Sn	None	Cu	Standard Part number	NO	1	260/20/3	✓	4/04	4/04	4/04		YES	NA		O	O	O	O	O	O	PCN Lead Free 05/07/04	3/04		
Leaded Film	VR25	BC	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	Lead in glass of electronic components	NO	50	Pb in glaze of R-layer	X	O	O	O	O	O	O	PCN/IND/01/2004	23 Mar 2004	
Leaded Film	VR37	BC	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	Lead in glass of electronic components	NO	50	Pb in glaze of R-layer										

Lead-Free Family Summary Sheet-Resistor Components

Product Description		Pb Free "2nd-Level Interconnect" Status										Soldering					RoHS Status					China Pollution Act Information (SJ/T11363-2006)							PCN-Status		
Technology/ Product Line	Product Family	Wafers/ Division	Pb-free Qual. Complete and Report Available (QTY)	Pb-free Samples available (QTY)	Pb-free Mass production (QTY)	Termination Finish	Underlayer	Lead or Base material	How to Order-Web (Lead Free)	Tin Lead (SnPb) Production available after Conversion	Molature Sensitivity Level	PCULEPCC-JSTD-609C compliant (Temp. Peak T _p in °C/Time Peak in hr sec /Days)	Backward Compatibility	RoHS Qual. Complete and Report Available (QTY)	RoHS-Comp. Samples (QTY)	RoHS-Comp. Mass production (QTY)	Exemptions Used	China ROHS Compliant (YES/NO) 符合/不符合 (是/否)	EPUP (YEARS) 环境有害物质 (年)	Location of Hazardous Substance(s) 有害物质使用地 (国家)	Pb 铅 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Hg 汞 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Cd 镉 X for C-MCV O for C-MCV 0.01 wt% (SJ/T11363-2006)	Cr(VI) 六价铬 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	PBB 多溴联苯 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	PBDE 多溴二苯醚 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Product Change Notification Ref. / Refs	Product Change Notification Date			
R-Chips	D-CRCW	DR/ DL	✓	✓	✓	100% Sn	Ni	Ag	For Lead Free ordering code, please refer to the current data sheet!	YES	NA	✓	✓	✓	✓	✓	✓	NO	NO	50	Pb in glass frit of electronic components	X	O	O	O	O	O	PCN 410 / 2004	23 Mar 2004 & 28/09/05		
Arrays	CRA...	DR/ DL	✓	✓	✓	100% Sn	Ni	Ag	Standard Part Number	TBD	NA	✓	✓	✓	✓	✓	✓	NO	NO	50	Pb in glass frit of R-layer, contacts and overglaze	X	O	O	O	O	O	PCN CRA001/2003	01 May 2003		
SMD Thick Film	MIL Style: RCWPM	DL	NA	NA	NA	80/20 Sn/Pb	Ni	Cu	NA	NA	1	✓	✓	NA	NA	NA	NA	NO	NO	50	Resistor Lead Plating	X	O	O	O	O	O	NA	NA		
Leaded Metal Film	MIL Style: RN, RL	DL	NA	NA	NA	80/40 Sn/Pb	NA	Cu	NA	NA	NA	280/10/3	NA	NA	NA	NA	NA	NO	NO	50	Pb in Plating	X	O	O	O	O	O	NA	NA		
Leaded Thick Film	ROX	DL	1/06	2/05	4/05	100% Sn matte	Sn/Cu IMC	Cu	New Package Code-Click for Link	YES	1	280/10/3	UT	1/06	4/05	4/05	4/05	YES	NA	NA	ROHS Annex 5-Pb in glass	X	O	O	O	O	O	NA	NA		
Techno Thick Film Networks	R/C-Networks	TN	4/04	4/04	4/04	SnAg	Cu	Cu	add "E2"	YES	NO	280/20/3	✓	NA	NA	NA	NA	YES	NA	NA	RoHS annex 7a/and glass#5	O	O	O	O	O	O	TBD	3/05		
Techno HV Resistors	FHV, TR,TD, TPR Series	TN	4/04	4/04	4/04	100% Sn matte	Cu	Cu	add "E3"	YES	NO	280/20/3	✓	NA	NA	NA	NA	YES	NA	NA	RoHS annex 7a/and glass#5	O	O	O	O	O	O	TBD	3/05		
Techno High Voltage Chip Resistors	CRHV	TN	4/04	4/04	4/04	SnAg/Cu	Sn	Sn	add "E1"	YES	NO	280/20/3	✓	NA	NA	NA	NA	YES	NA	NA	RoHS annex 7a/and glass#5	O	O	O	O	O	O	TBD	3/05		
FIXED RESISTORS-FILM	RPS/RCH/RTOP/IRPH	SF	✓	✓	✓	Sn	None	Cu	Standard Part number	NO	1	280/20/3	✓	2/05	2/05	1/06	1/06	NO	NO	50	Pb in thick film Pb in solder past for RPS Cd in Plating	X	O	X	O	O	O	NA	NA		
FIXED RESISTORS-FILM	RTO	SF	4/04	4/04	1/05	100% Sn	None	Cu	Add "E3"	YES	1	280/20/3	✓	2/05	2/05	1/06	1/06	NO	NO	50	Pb in thick film, Cd Plating	X	O	X	O	O	O	PCN Lead Free 05/07/04	3/04		
FIXED RESISTORS-FILM	RTO20/50C	SF	4/04	4/04	1/05	Sn99/Cu0.7/Ag0.3	None	Cu	add "E1"	NO	UT	220/20/3	✓	2/05	2/05	1/06	1/06	NO	NO	50	Pb in thick film, Cd Plating	X	O	X	O	O	O				
Film Resistors-Thin																															
Thin Film Chip R	MCS. (10R ... 100K) MCT. (<3R3 ... >221K) MCU. (<3R3 ... >480K) MCA.	BE	✓	✓	✓	100% Sn	Ni	AgPd, CrNi	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	✓	YES	NA	NA	Pb in glass frit of electronic components	O	O	O	O	O	O	O	NA	NA	
Thin Film Chip R	MCS. (<10R; >100K) MCT. (<3R3; >221K) MCU. (<3R3; >480K)	BE	✓	✓	✓	100% Sn	Ni	AgPd, CrNi	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	✓	NO	NO	50	Pb in glass frit of R-layer, contacts and overglaze	X	O	O	O	O	O	O	NA	NA	
Thin Film Chip R	OCT. / OCU.	BE	✓	✓	✓	100% Sn	Ni	AgPd, CrNi	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	✓	NO	NO	50	Pb in glass frit of electronic components	X	O	O	O	O	O	O	NA	NA	
Thin Film Chip R	NCT. / NCU.	BE	✓	✓	✓	100% Sn	Ni	AgPd, CrNi	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	✓	NO	NO	50	Pb in glass frit of R-layer, contacts and overglaze	X	O	O	O	O	O	O	NA	NA	
Thin Film Chip R	TCT. / TCU. / TCA.	BE	✓	✓	✓	100% Sn	Ni	AgPd, CrNi	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	✓	NO	NO	50	Pb in glass frit of R-layer, contacts and overglaze	X	O	O	O	O	O	O	NA	NA	
Thin Film Chip R	MCT. _HF	BE	✓	✓	✓	100% Sn	Ni	AgPd, CrNi	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	✓	YES	NA	NA	Pb in glass frit of electronic components	O	O	O	O	O	O	O	NA	NA	
SMD-Fuse	MFU	BE	✓	✓	✓	100% Sn	Ni	AgPd, CrNi	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	✓	NO	NO	50	Pb in glass frit of contacts and glaze	X	O	O	O	O	O	O	NA	NA	
Thin Film -SMD	M.	DR	✓	✓	✓	100% Sn	Ni	Ag	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	✓	YES	NA	NA	Pb in glass frit of contacts	O	O	O	O	O	O	O	PCN QW 0409/0407	09/08 Mar 2003	
Thin Film -SMD	THPW.	DL	✓	✓	✓	100% Sn	Ni	Ag	For Lead Free ordering code, please refer to the current data sheet!	YES	NA	✓	✓	✓	✓	✓	✓	YES	NA	NA	Pb in glass frit of electronic components	O	O	O	O	O	O	O	PCN QW 0409/0407	09/08 Mar 2003	
Thin Film Array	ACAC	BE	✓	✓	✓	100% Sn	Ni	AgPd, CrNi	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	✓	YES	NA	NA	Pb in glass frit of contacts	O	O	O	O	O	O	O	NA	NA	
Thin Film Array	ACAS	BE	✓	✓	✓	100% Sn	Ni	AgPd, CrNi	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	✓	YES	NA	NA	Pb in glass frit of electronic components	O	O	O	O	O	O	O	NA	NA	
SMD Thick Film	Industrial RCWP	DL	NA	3/05	4/05			Cu and Ag on ceramic substrate	New Package Code- Click for Link	YES	1	✓	✓	NA	NA	NA	NA	NO	NO	50	Pb in Thick Film Glass	X	O	O	O	O	O	O	NA	NA	
Thin Film	Chip & Wire TLCC, LCC, HDD	TF	3/05	3/05	4/05			SnAg/Cu	Custom Product	YES	NA	✓	✓	3/05	3/05	4/05	4/05	YES	NA	NA	O	O	O	O	O	O	O	O	VTF-001-2005	1/04	
Thin Film	Quick-Nets	TF	3/05	3/05	4/05			Varies	Custom Product	YES	NA	✓	✓	3/05	3/05	4/05	4/05	YES	NA	NA	O	O	O	O	O	O	O	O	VTF-001-2005	1/04	
Thin Film	Lead Frame Bond TSP	TF	3/05	3/05	4/05			SnAg/Cu	Custom Product	YES	NA	✓	✓	3/05	3/05	4/05	4/05	YES	NA	NA	O	O	O	O	O	O	O	O	VTF-001-2005	1/04	
Thin Film	Edge Clip/Vapor Phase	TF	3/05	3/05	4/05			Sn/Cu	Custom Product	YES	NA	✓	✓	3/05	3/05	4/05	4/05	YES	NA	NA	O	O	O	O	O	O	O	O	VTF-001-2005	1/04	
Thin Film	Molded Chip & Wire MP, MPD, ORN, TDP	TF	2/05	2/05	2/05			100% Sn matte	Cu	YES	1	✓	✓	2/05	2/05	2/05	2/05	YES	NA	NA	O	O	O	O	O	O	O	O	VTF-001-2005	1/04	
Thin Film	Super Small Outlines OSOP	TF	3/05	3/05	2/05			100% Sn matte	Cu	YES	1	✓	✓	3/05	3/05	2/05	2/05	YES	NA	NA	O	O	O	O	O	O	O	O	VTF-001-2005	1/04	
Thin Film	CSO	TF	3/05	3/05	4/05			SnAg/Cu	Custom Product	YES	NA	✓	✓	3/05	3/05	4/05	4/05	YES	NA	NA	O	O	O	O	O	O	O	O	VTF-001-2005	1/04	
Thin Film	20/30 Mil Hybrid	TF	NA	NA	NA			Au	NA	NO	NA	✓	✓	NA	NA	NA	NA	YES	NA	NA	O	O	O	O	O	O	O	O			
Thin Film	Arrays	TF	NA	NA	NA			Au	NA	NO	NA	✓	✓	NA	NA	NA	NA	YES	NA	NA	O	O	O	O	O	O	O	O			
Thin Film	VTF Sigs	TF	3/05	3/05	4/05			SnAg/Cu	Ni	Cu	S Termination	YES	NA	✓	✓	3/05	3/05	4/05	YES	NA	NA	O	O	O	O	O	O	O	VTF-001-2005	1/04	
Thin Film	Thin Film Wraparounds Pns, PTN, Lns	TF	1/05	3/04	3/04			SnAg/Cu	Ni	Cu	S Termination	YES	NA	✓	✓	1/05	3/04	3/04	YES	NA	NA	O	O	O	O	O	O	O	VTF-001-2005	1/04	
Thin Film	Thin Film QPL Wraparounds 55342E, 55342H	TF	NA	NA	NA			NA	NA	Ni	Cu	S Termination	YES	NA	✓	✓	NA	NO	NO	50	Termination	X	O	O	O	O	O	O	O		
Thin Film	Thin Film Wraparounds MI	TF	1/05	3/04	3/04			SnAg/Cu	Ni	Cu	S Termination	YES	NA	✓	✓	1/05	3/04	3/04	YES	NA	NA	O	O	O	O	O	O	O	VTF-001-2005	1/04	
Thin Film	Resale Silicon Nets VSSR, VTSR, VSQR, VSSRC, VR	TF	4/05	3/05	4/05			100% Sn matte	Cu	Cu	Date Code 0526	YES	1	✓	✓	4/05	3/05	4/05	YES	NA	NA	O	O	O	O	O	O	O	VTF-001-2005	1/04	
Electro-Films	Hybrid Chips	EF	NA	✓	✓			Al or Au	Standard Part number	NO	NA	✓	✓	NA	✓	✓	✓	YES	NA	NA	O	O	O	O	O	O	O	O	O		
Electro-Films	Hybrid Arrays	EF	NA	✓	✓			Al or Au	Standard Part number	NO	NA	✓	✓	NA	✓	✓	✓	YES	NA	NA	O	O	O	O	O	O	O	O	O		
Electro-Films	Medical Components	EF	NA	NA	NA			NA	NA	NA	NA	✓	✓	NA	NA	NA	NA	NO	NO	50	Solder balls	X	O	O	O	O	O	O	O		
THIN FILM	RMKD_CNP	SF	3/04	3/04	1/05			Au	Ni	FeNi	Standard Part number	NO	1	280/20/1	✓	4/04	4/04	1/05	YES	NA	NA	O	O	O	O	O	O	O	PCN Lead Free 05/07/04	3/04	
THIN FILM	CHP	SF	4/04	4/04	1/05			Sn96.5/Ag3.5	Ni	NA	Type termination N	YES	1	280/20/1	✓	4/04	4/04	1/05	NO	NO	50	Thick film ink	X	O	O	O	O	O	PCN Lead Free 05/07/04	3/04	
THIN FILM	P,RV,CH,PRA, TFS-W,CNW	SF	4/04	4/04	1/05			Sn96.5/Ag3.5	Ni	NA	Type termination N	YES	1	280/20/1	✓	4/04	4/04	1/05	YES	NA	NA	O	O	O	O	O	O	O	PCN Lead Free 05/07/04	3/04	
THIN FILM	TAS,CNS,TFS-S	SF	4/04	4/04	1/05			Sn96.5/Ag3.5	Cu	CuSn	Standard Part number	NO	1	280/20/1	✓	4/04	4/04	1/05	YES	NA	NA	O	O	O	O	O	O	O	PCN Lead Free 05/07/04	3/04	
THIN FILM	RMKMS, CNM	SF	3/04	3/04	1/05			100% Sn	None	CuFe	Standard Part number	NO	1	280/20/1	✓	4/04	4/04	1/05	YES	NA	NA	O	O	O	O	O	O	O	PCN Lead Free 05/07/04	3/04	
THIN FILM	TA,C,S,RMK,SA,SB,RSK,CN	SF	✓	✓	✓			NA	NA	NA	Standard Part number	NO	1	NA	NA	✓	✓	✓	YES	NA											

Lead-Free Family Summary Sheet-Resistor Components

Product Description				Pb Free "2nd-Level Interconnect" Status										Soldering					RoHS Status					China Pollution Act Information (SJ/T11363-2006)						PCN-Status	
Technology/ Product Line	Product Family	Wafers/ Division	Pb-Free Qual. Complete and Report Available (QTY)	Pb-Free Samples available (QTY)	Pb-Free Mass production (QTY)	Termination Finish	Underlayer	Lead or Base material	How to Order-Web (Lead Free)	Tin (Sn/Pb) composition available after conversion	Moisture Sensitivity Level	PC/IEBC-C-JTD-600C compliant (Temp. Peak in °C/Time Peak in hrs. /cycles)	Backward Compatibility	RoHS Qual. Complete and Report Available (QTY)	RoHS Comp. Samples (QTY)	RoHS Comp. Mass production (QTY)	Exemptions Used	China ROHS Compliant (YES/NO) 符合 (是/否)	EPUP (YEARS) 符合使用期限 (年)	Location of Hazardous Substance(s) 有害物质使用地 (所在地)	Pb 鉛 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Hg 汞 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Cd 镉 X for C-MCV O for C-MCV 0.01 wt% (SJ/T11363-2006)	Cr(VI) 六价铬 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	PBB 多溴联苯 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	PBDE 多溴二苯醚 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Product Change Notification Ref. / Ref#	Product Change Notification Date			
Foil Resistors	Chip resistors	VF	1/05	3/04	4/04	99.3/0.7 Sn/Cu	Ni	NiCr	New Part Number, as per data sheets	YES	TBD	260/20/	✓	1/06	2/05	4/05		YES	NA		O	O	O	O	O	O	PCN-PR-Foil-001	1/9/2005			
Alpha Foil Resistors	Through-hole molded	VF	2/05	2/05	2/05	97.5/2.5 Sn/Cu	Cu	Cu	NO CHANGE TO PART NUMBER	YES	2	TBD	✓	2/05	2/05	2/05		YES	NA		O	O	O	O	O	O					
Alpha Foil Resistors	Through-hole conformal coated	VF	2/05	2/05	2/05	100% Sn	Cu	Cu/SnCr/P	NO CHANGE TO PART NUMBER	YES	2	TBD	✓	2/05	2/05	2/05		YES	NA		O	O	O	O	O	O					
Alpha Foil Resistors	SMD Molded	VF	1/98	1/98	1/98	100% Ag	Cu	Ni/Fe	NO CHANGE TO PART NUMBER	NO	2	260/10/1	✓	1/98	1/98	1/98		YES	NA		O	O	O	O	O	O					
Alpha Foil Resistors	SMD Current Sensing Chips	VF	2/05	2/05	2/05	Sn/Ag/Cu	Ni	Ni/Cr	NO CHANGE TO PART NUMBER	YES	2	260/10/1	✓	2/05	2/05	2/05		YES	NA		O	O	O	O	O	O					
Foil MIL		VF	NA	NA	NA					NA	NA	NA	NA	NA	NA	NA											NA	NA			
Networks																															
Networks	RNX	DL	1/06	2/05	4/05	100% Sn matte	Sn/Cu IMC	Cu	New Package Code-Click for Link	YES	1	260/10/3	UT	1/06	4/05	4/05	RoHS Annex 5 - Pb in glass	YES	NA		O	O	O	O	O	O	NA	NA			
Networks	SOMC	DL	3/06	4/04	2/06	95.5/3.9/0.6 Sn/Cu/Ag	Sn/Cu IMC	Cu alloy	New Package Code-Click for Link	YES	PT	260/20/1	✓	3/06	4/05	2/06	RoHS Annex 5 - Pb in glass and RoHS Annex 7a - high temp solder	NO	50	Solder and thick film materials	X	O	O	O	O	O	NA	NA			
Networks	SOGC	DL	3/06	4/04	2/06	95.5/3.9/0.6 Sn/Cu/Ag	Sn/Cu IMC	Cu alloy	New Package Code-Click for Link	YES	PT	260/20/1	✓	3/06	4/05	2/06	RoHS Annex 5 - Pb in glass and RoHS Annex 7a - high temp solder	NO	50	Solder and thick film materials	X	O	O	O	O	O	NA	NA			
Networks	MDP	DL	3/06	4/04	2/06	95.5/3.9/0.6 Sn/Cu/Ag	Sn/Cu IMC	Cu alloy	New Package Code-Click for Link	YES	PT	260/10/1	✓	3/06	4/05	2/06	RoHS Annex 5 - Pb in glass and RoHS Annex 7a - high temp solder	NO	50	Solder and thick film materials	X	O	O	O	O	O	NA	NA			
Networks	MSP	DL	3/06	4/04	2/06	95.5/3.9/0.6 Sn/Cu/Ag	Sn/Cu IMC	Cu alloy	New Package Code-Click for Link	YES	PT	260/10/1	✓	3/06	4/05	2/06	RoHS Annex 5 - Pb in glass and RoHS Annex 7a - high temp solder	NO	50	Solder and thick film materials	X	O	O	O	O	O	NA	NA			
Networks	CSC	DL	2/07	2/07	2/07	TBD	Sn/Cu IMC	Steel	New Package Code-Click for Link	TBD	PT	260/10/1	✓	2/07	2/07	2/07	RoHS Annex 5 - Pb in glass and RoHS Annex 7a - high temp solder	NO	50	Solder and thick film materials	X	O	O	O	O	O	NA	NA			
Networks	CZA	DL	0	0	0	100% Sn	Ni	Ag	New Package Code-Click for Link	TBD	NA	0	✓	0	0	0	Lead in glass of electronic components	NO	50	Pb in glass frit of R-layer, contacts and overglaze	X	O	O	O	O	O	PCN CRA001/2003	01 May 2003			
Networks	CRCA 10-50 pf	DL	4/06	4/04	2/06	100% Sn	Ni	Ag/Cu	New Package Code-Click for Link	YES	PT	260/10/2	✓	4/06	2/06	2/06	RoHS Annex 5 - Pb in glass	NO	50	Thick film materials, cadmium in high capacitor values	X	O	X	O	O	O	NA	NA			
Networks	CRCA 51-200 pf	DL	4/06	4/04	2/06	100% Sn	Ni	Ag/Cu	New Package Code-Click for Link	YES	PT	260/10/2	✓	4/06	2/06	2/06	RoHS Annex 5 - Pb in glass	NO	50	Thick film materials, cadmium in high capacitor values	X	O	X	O	O	O	NA	NA			
Networks	CRCC 10-100 pf	DL	4/06	4/04	2/06	100% Sn	Ni	Ag/Cu	New Package Code-Click for Link	YES	PT	260/10/3	✓	4/06	2/06	2/06	RoHS Annex 5 - Pb in glass	NO	50	Thick film materials, cadmium in high capacitor values	X	O	X	O	O	O	NA	NA			
Networks	CRCC 101-200 pf	DL	4/06	4/04	2/06	100% Sn	Ni	Ag/Cu	New Package Code-Click for Link	YES	PT	260/10/3	0	4/06	2/06	2/06	RoHS Annex 5 - Pb in glass	NO	50	Thick film materials, cadmium in high capacitor values	X	O	X	O	O	O	NA	NA			
Networks	CS201	DL	4/06	4/04	2/06	95.5/3.9/0.6 Sn/Cu/Ag	Sn/Cu IMC	Cu alloy	New Package Code-Click for Link	YES	PT	260/10/1	UT	4/06	2/06	3/06	RoHS Annex 5 - Pb in glass and RoHS Annex 7a - high temp solder	NO	50	Solder and thick film materials	X	O	O	O	O	O	NA	NA			
Networks	CS206	DL	4/06	4/04	2/06	95.5/3.9/0.6 Sn/Cu/Ag	Sn/Cu IMC	Cu alloy	New Package Code-Click for Link	YES	PT	260/10/1	UT	4/06	2/06	3/06	RoHS Annex 5 - Pb in glass and RoHS Annex 7a - high temp solder	NO	50	Solder and thick film materials	X	O	O	O	O	O	NA	NA			
Networks	Military DFM / MSM / MDM	DL	NA	NA	NA	63/37 Sn/Pb	NA	Cu alloy	NA	NA	PT	260/10/1	NA	NA	NA	NA	NA	NO	50	Solder and thick film materials	X	O	O	O	O	O	NA	NA			
Networks	Military MDRC	DL	NA	NA	NA	63/37 Sn/Pb	Sn/Cu IMC	Cu alloy	Contact Marketing	NA	PT	260/10/1	NA	NA	NA	NA	NA	NO	50	Solder and thick film materials	X	O	O	O	O	O	NA	NA			
Networks	ASRA	BE	NA	NA	NA	95/5 Sn/Pb	None	Alloy42	Standard Part Number	YES	NA	0	NA	NA	NA	NA	ELV: Pb in automotive	NO	50	Pb in tin surface finish	X	O	O	O	O	O	NA	NA			
NTC																															
NTC-SMD NiSn	2322 615 3... 615 4... 615 5...	BC	✓	✓	✓	100% Sn	Ni	Ag	New Part Number 2381 615 xxxxx from 11/04/2005	NO	1	✓	✓	✓	✓	✓	Pb in contact paste glass, and covering glass	NO	50	glass conductive layer + glass coating	X	O	O	O	O	O					
NTC-SMD Dale	NTHS	DL	✓	✓	✓	100% Sn	Ni	Ag	for T/R Package add: "E" for Bulk Package add: "F"	YES	1	260/20/1	✓	✓	✓	✓	Pb in contact paste glass frit and glaze	NO	50	glass conductive layer	X	O	O	O	O	O	0112004	30-Jan-04			
NTC-SMD Dale	W-Style	DL	✓	✓	✓	Ag	na	Ceramic	add "E"	NO	1	260/10/1	✓	✓	✓	✓	glass conductive layer	NO	50	glass conductive layer	X	O	O	O	O	O					
NTC-SMD AgPd	2322 615 1... 615 2...	BC	✓	✓	✓	Ag/Pd	None	Ceramic	New Part Number 2381 615 xxxxx from 11/04/2005	NO	1	260/10/1	✓	✓	✓	✓	Pb in contact paste glass frit	YES	NA		O	O	O	O	O	O					
NTC-Moulded	2322 641 6...	BC	✓	✓	✓	100% Sn	None	Ni	New Part Number 2381 641 6xxxx from 11/04/2005	NO	1	0	✓	✓	✓	✓	Pb in contact paste glass frit	NO	50	glass conductive layer	X	O	O	O	O	O					
NTC-Std Dale	M-C style/T-style	DL	✓	✓	✓	100% Sn	Ni/na	Cu/Ni	add "F"	NO	1	260/20/1	✓	✓	✓	✓	Cd in contact paste	NO	50	glass conductive layer	X	O	O	O	O	O					
NTC-Std	2322 640 9... Ni wire	BC	✓	✓	✓	100% Sn	None	Ni	New Part Number 2381 640 9xxxx from 11/04/2005	NO	1	✓	✓	✓	✓	✓	Pb in contact paste glass frit	NO	50	glass conductive layer	X	O	O	O	O	O					

Lead-Free Family Summary Sheet-Resistor Components

Product Description		Pb Free "2nd-Level Interconnect" Status										Soldering					RoHS Status					China Pollution Act Information (SJ/T11363-2006)						PCN-Status	
Technology/ Product Line	Product Family	Wafery/ Division	Pb-free Qual. Complete and Report Available (QTY)	Pb-free Samples available (QTY)	Pb-free Mass production (QTY)	Termination Finish	Unorienter	Lead or Base material	How to Order-Web (Lead Free)	Tin Lead (SnPb) Production available after Conversion	Moisture Sensitivity Level	PCU/IEPC-JTD-600C compliant (Temp. Peak in °C/ Time Peak in hr. sec. / Days)	Backward Compatibility	RoHS Qual. Complete and Report Available (QTY)	RoHS Comp. Samples (QTY)	RoHS Comp. Mass production (QTY)	Exemptions Used	China ROHS Compliant (YES/NO) 符合/不符合	EPUP (YEARS) 环保使用期限 (年)	Location of Hazardous Substances 有害物质使用场所	Pb 铅 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Hg 汞 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Cd 镉 X for C-MCV O for C-MCV 0.01 wt% (SJ/T11363-2006)	Cr(VI) 六价铬 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	PBB 多溴联苯 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	PBDE 多溴二苯醚 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Product Change Notification Ref. / Refs	Product Change Notification Date	
NTC-Std	2322 640 5... Ni wire	BC	✓	✓	✓	100% Sn	None	Ni	New Part Number 2381 640 5xxxx from 11/04/2005	NO	1	✓	✓	✓	✓	✓	Pb in contact paste glass frit	NO	50	glass conductive layer	X	O	O	O	O	O	VSD-4971-1041	38049	
NTC-Std	2322 640 9... Cu wire	BC	✓	✓	✓	100% Sn	None	Cu	New Part Number 2381 640 9xxxx from 11/04/2005	YES	1	✓	✓	✓	✓	✓	Pb in contact paste glass frit	NO	50	glass conductive layer	X	O	O	O	O	O	VSD-4971-1063	38413	
NTC screws	2322 640 7... Cu wire	BC	✓	✓	✓	Ni	None	Cu	New Part Number 2381 640 7xxxx from 11/04/2005	YES	1	NA	✓	✓	✓	✓	Pb in contact paste glass frit	NO	50	glass conductive layer	X	O	O	O	O	O	VSD-4971-1063	38413	
NTC-long flex leads isolated	2322 645 20xxx, Ni wire	BC	✓	✓	✓	100% Sn	None	Ni	New Part Number 2381 645 2xxxx	NO	1	NA	✓	✓	✓	✓	Pb in contact paste glass frit	NO	50	glass conductive layer	X	O	O	O	O	O			
NTC-long flex leads	2322 645 90xxx, 2322 645 10xxx, Ni wire	BC	✓	✓	✓	100% Sn	None	Ni	New Part Number 2381 645 1xxxx	NO	1	NA	✓	✓	✓	✓	Pb in contact paste glass frit	NO	50	glass conductive layer	X	O	O	O	O	O			
NTC-Std	2322 640 3/4/6...	BC	✓	✓	✓	100% Sn	None	Cu	New Part Number 2381 640 3xxxx from 11/04/2005	YES	1	✓	✓	✓	✓	✓	Pb in contact paste glass frit	NO	50	glass conductive layer	X	O	O	O	O	O	VSD-4971-1063	38413	
NTC diodes glass envelopes	2322 633 5/3/8.../900...	BC	✓	✓	✓	SnCu	None	Cu	New Part Number 2381 633 xxxxxx	NO	1	✓	✓	✓	✓	✓	Pb in contact paste glass frit	NO	50	glass conductive layer + glass envelope	X	O	O	O	O	O			
NTC high T isolated Ni wires	2322 645 9...	BC	✓	✓	✓	Ag	None	Ni	New Part Number 2381 645 9xxxx	YES	1	NA	✓	✓	✓	✓	Pb in contact paste glass frit	NO	50	glass conductive layer	X	O	O	O	O	O			
NTC pvc isolated leads for refrigerator	2322 645 9... 2322 641 9...	BC	✓	✓	✓	100% Sn	None	Cu	New Part Number 2381 641 9xxxx	NO	1	NA	✓	✓	✓	✓	Pb in contact paste glass frit	NO	50	glass conductive layer	X	O	O	O	O	O			
NTC housings	2322 645 9...	BC	✓	✓	✓	100% Sn	None	Cu	New Part Number 2381 645 9xxxx	NO	1	NA	✓	✓	✓	✓	Pb in contact paste glass frit	NO	50	glass conductive layer	X	O	O	O	O	O			
NTC pvc isolated leads others	2322 641 2/3/4	BC	✓	✓	✓	100% Sn	None	Cu	New Part Number 2381 641 xxxxx from 11/04/2005	NO	1	NA	✓	✓	✓	✓	Pb in contact paste glass frit	NO	50	glass conductive layer + copper alloys	X	O	O	O	O	O			
NTC assemblies	2338 xxx	BC	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	1	NA	✓	✓	✓	✓	Pb in contact paste glass frit	NO	50	glass conductive layer	X	O	O	O	O	O			
Potentiometers																													
Potentiometers, trimmer, attenuators etc	P10/P20/P40...etc.	DR	✓	✓	✓	Sn/Ag/Cu	NA	div.	Standard Part Number	TBD	NA	✓	✓	✓	✓	✓	Pb in high melting temperature type solders	NO	50	Pb in high melting solder (internal connection)	X	O	O	O	O	O	PCN 19B / 2004	01 Mar 2004	
POTENTIOMETERS	P11	SF	✓	✓	✓	100% Sn	NA	Cu/NiSn	Standard Part number	NO	1	260/4/3	✓	2/05	1/05	1/05	Lead in glass and in Brass alloys Cd in electrical contacts	NO	50	Resistive element, shaft	X	O	X	O	O	O	PCN Lead Free 05/07/04	2/04	
POTENTIOMETERS	148/149	SF	1/05	1/05	1/05	100% Sn	NA	Cu/NiSn	Standard Part number	NO	1	260/4/3	✓	2/05	2/05	2/05	Lead in glass and in Brass alloys Cd in electrical contacts	NO	50	Resistive element, shaft	X	O	X	O	O	O	PCN Lead Free 05/07/04	2/04	
POTENTIOMETERS	P12/P13	SF	4/04	4/04	4/04	100% Sn	Ni	CuZn	Standard Part number	NO	1	260/4/3	✓	2/05	1/05	1/05	Lead in glass and in Brass alloys Cd in electrical contacts	NO	50	Resistive element, shaft	X	O	X	O	O	O	PCN Lead Free 05/07/04	3/04	
POTENTIOMETERS	P16	SF	4/04	4/04	4/04	100% Sn	NA	CuZn	Standard Part number	NO	1	260/4/3	✓	2/05	1/05	1/05	Lead in glass and in Brass alloys Cd in electrical contacts	NO	50	Resistive element	X	O	X	O	O	O	PCN Lead Free 05/07/04	3/04	
POTENTIOMETERS	PRV8	SF	4/04	4/04	4/04	100% Sn	Ni	CuZn	Standard Part number	NO	1	260/4/3	✓	2/05	1/05	1/05	Lead in glass and in Brass alloys Cd in electrical contacts	NO	50	Resistive element, shaft	X	O	X	O	O	O	PCN Lead Free 05/07/04	3/04	
POTENTIOMETERS	PE30	SF	4/04	4/04	4/04	100% Sn	NA	CuSnP	Standard Part number	NO	1	260/4/3	✓	2/05	1/05	1/05	Lead in glass and in Brass alloys Cd in electrical contacts	NO	50	Resistive element, shaft	X	O	X	O	O	O	PCN Lead Free 05/07/04	3/04	
POTENTIOMETERS	P9	SF	✓	✓	✓	100% Sn	Cu	CuSnP	Standard Part number	NO	1	260/4/3	✓	2/05	1/05	1/05	Lead in glass and in Brass alloys Cd in electrical contacts	NO	50	Resistive element, shaft	X	O	X	O	O	O	PCN Lead Free 05/07/04	3/04	
TRIM-LD-Multi Turns Trimmers	T6 / T63	SF	4/04	4/04	1/05	100% Sn	NA	Cu	Standard Part number	NO	1	260/4/3	✓	2/05	1/05	1/05	Lead in glass and in Brass alloys Cd in electrical contacts	NO	50	Resistive element, shaft	X	O	X	O	O	O	PCN Lead Free 05/07/04	3/04	
TRIM-LD-Single Turn Trimmers	T7	SF	4/04	4/04	1/05	Sn97/Ag3	NA	CuSnP	Standard Part number	NO	1	260/4/3	✓	2/05	1/05	1/05	Lead in glass and cd in electrical contacts	NO	50	Resistive element	X	O	X	O	O	O	PCN Lead Free 05/07/04	3/04	
TRIM-LD-Single Turn Trimmers	P8	SF	4/04	4/04	1/05	Sn97/Ag3	NA	CuSnP	Standard Part number	NO	1	260/4/3	✓	2/05	1/05	1/05	Lead in glass and cd in electrical contacts	NO	50	Resistive element	X	O	X	O	O	O	PCN Lead Free 05/07/04	3/04	
TRIM-LD-Multiturns Trimmers	T9 / M64 / T93	SF	4/04	4/04	1/05	100% Sn	NA	Cu	Standard Part number	NO	1	260/4/3	✓	2/05	1/05	1/05	Lead in glass and in Brass alloys Cd in electrical contacts	NO	50	Resistive element, shaft	X	O	X	O	O	O	PCN Lead Free 05/07/04	3/04	
TRIM-LD-Multiturns Trimmers	M43 / T18	SF	1/05	1/05	1/05	100% Sn	NA	Cu alloy	Standard Part number	NO	1	260/4/3	✓	2/05	1/05	1/05	Lead in glass and in Brass alloys Cd in electrical contacts	NO	50	Resistive element, shaft	X	O	X	O	O	O	PCN Lead Free 05/07/04	3/04	
TRIM-LD-Single Turn Trimmers	M63 / M70	SF	1/05	1/05	1/05	100% Sn	NA	Cu alloy	Standard Part number	NO	1	260/4/3	✓	2/05	1/05	1/05	Lead in glass and cd in electrical contacts	NO	50	Resistive element, shaft	X	O	X	O	O	O	PCN Lead Free 05/07/04	3/04	

Lead-Free Family Summary Sheet-Resistor Components

Product Description			Pb Free "2nd-Level Interconnect" Status										Soldering					RoHS Status					China Pollution Act Information (SJ/T11363-2006)					PCN-Status	
Technology/ Product Line	Product Family	Wafar/ Division	Pb-free Qual. Complete and Report Available (QTY)	Pb-free Samples available (QTY)	Pb-free Mass production (QTY)	Termination Finish	Underlayer	Lead or Base material	How to Order-Web (Lead Free)	Tin Lead (SnPb) Production available after Conversion	Moisture Sensitivity Level	PC/IEEC-C-JTD-600C compliant (Temp. Peak Pb in °C/ Time Peak in hrs. /Days)	Backward Compatibility	RoHS Qual. Complete and Report Available (QTY)	RoHS-Comp. Samples (QTY)	RoHS-Comp. Mass production (QTY)	Exemptions Used	China ROHS Compliant (YES/NO) 符合/不符合 (是/否)	EPUR (YEARS) 豁免年限 (年)	Location of Hazardous Substance(s) 有害物质使用地点 (所在地)	Pb 铅 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Hg 汞 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Cd 镉 X for C-MCV O for C-MCV 0.01 wt% (SJ/T11363-2006)	Cr(VI) 六价铬 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	PBB 多溴联苯 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	PBDE 多溴二苯醚 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Product Change Notification Risk / Refs	Product Change Notification Date	
TRIM-SMD TRIMMERS	TSM4	SF	4/04	1/05	2/05	100% Sn	NA	CuSn	Standard Part number	NO	1	2604/03	✓	2/05	1/05	1/05	Lead in glass and in Brass alloys Cd in electrical contacts	NO	50	Resistive element, shaft	X	O	X	O	O	O	PCN Lead Free 05/07/04	3/04	
TRIM-SMD TRIMMERS	TS53	SF	4/04	4/04	1/05	100% Sn	NA	CuSnP	Standard Part number	NO	1	2604/03	✓	2/05	1/05	1/05	Lead in glass and Cd in electrical contacts	NO	50	Resistive element	X	O	X	O	O	O	PCN Lead Free 05/07/04	3/04	
TRIM-SMD TRIMMERS	TS63	SF	4/04	4/04	1/05	100% Sn	NA	Cu	Standard Part number	NO	1	22010/1	✓	2/05	1/05	1/05	Lead in glass and in Brass alloys Cd in electrical contacts	NO	50	Resistive element, shaft	X	O	X	O	O	O	PCN Lead Free 05/07/04	3/04	
PTC																													
PTC-SMD Dale	TFPT/PTFT	DL	✓	✓	✓	100% Sn	Ni	Cu	for T/R Package add: "W" for Bulk Package add: "F"	YES	1	✓	✓	✓	✓	✓	Pb in contact paste glass, and covering glass	NO	50	Thin film element	X	O	O	O	O	O	010 2003	24-Dec-03	
PTC sensing leaded	2322 671 911..	BC	✓	✓	✓	100% Sn	None	Ni	New Part Number 2381 671 911xx from 11/04/2005	NO	1	✓	✓	✓	✓	✓		NO	50	Ceramic	X	O	O	O	O	O			
PTC-SMD direct	2322 675	BC	✓	✓	✓	100% Sn	Ni	Ag	New Part Number 2381 675 xxxxx from 11/04/2005	NO	1	✓	✓	✓	✓	✓	Pb in contact paste glass, and covering glass	NO	50	Ceramic + glass	X	O	O	O	O	O			
PTC-SMD Leadframe	2322 661 97... & 2322 673	BC	NA	NA	NA	Pb92/Sn8	Ni	Bronze	New Part Number 2381 661 97xxx - 2381 673 xxxxx from 11/04/2005	NA	1	NO	✓	✓	✓	✓	Pb in electroceramics and HMP termination coating	NO	50	Ceramic + HMP solder	X	O	O	O	O	O			
PTC-Overload	2322 660 .../661 .../ 662 .../ 663 .../664...	BC	✓	✓	✓	100% Sn	Ni	Cu	New Part Number 2381 66x xxxxx from 11/04/2005	YES	1	✓	✓	✓	✓	✓	Pb in electroceramics and HMP solder	NO	50	Ceramic + HMP solder	X	O	O	O	O	O	PTC-2004-06	38278	
PTC- hot air	2322 660 - 661 - 662 - 663 9xxxx	BC	✓	✓	✓	100% Sn	Ni	Cu	New Part Number 2381 66x xxxxx	YES	1	✓	✓	✓	✓	✓	Pb in electroceramics and HMP solder	NO	50	Ceramic + HMP solder	X	O	O	O	O	O			
PTC-CER-MotorStarts	pellets	CR	NA	✓	✓	Ag	None	Ceramic	Standard Part Number	NO	1	NA	NA	✓	✓	✓	Pb in contact paste glass frit	NO	50	glass conductive layer	X	O	O	O	O	O			
PTC-CER-MotorStarts	housed	CR	NA	✓	✓	100% Sn	None	Steel	Standard Part Number	NO	1	NA	NA	✓	✓	✓	Pb in contact paste glass frit	NO	50	glass conductive layer	X	O	O	O	O	O			
PTC-CER-Lighting	307 C xxxxx	CR	✓	✓	✓	100% Sn	Ni	Cu	New Part Number .add "R"	YES	1	26010/1	✓	✓	✓	✓	Pb in contact paste glass frit	NO	50	glass conductive layer	X	O	O	O	O	O			
Sensors/Gages																													
Strain Gauges/Sensors	WA, SA, SD, SK, SZK, Opt SE, Opt S	MM	NA	NA	NA	NA	Cu or Ni	NA	Standard Part Number	NA	NA	NO	✓	NA	NA	NA	RoHS.11	NO	50	solder connections	X	O	O	O	O	O	NA	NA	
Instrumentation	All instruments	MM	NA	NA	NA	NA	NA	NA	Standard Part Number	NA	NA	NA	✓	NA	NA	NA	WEEE, Annex IA, 8, 9	NO	50	solder connections	X	O	O	O	O	O	NA	NA	
Photoelastics	All instruments	MM	NA	NA	NA	NA	NA	NA	Standard Part Number	NA	NA	NA	✓	NA	NA	NA	WEEE, Annex IA, 8, 9	NO	50	solder connections	X	O	O	O	O	O	NA	NA	
Accessories	361A-20R, 361A-40R, 570-25R	MM	NA	NA	NA	NA	NA	NA	Standard Part Number	NA	NA	NA	✓	NA	NA	NA	RoHS.11	NO	50	solder connections	X	O	O	O	O	O	NA	NA	
Humidity Sensor	2322 691 9000x.	BC	✓	✓	✓	Au	Ni	SS	2322 691 9000x Pb free 2381 691 9000x RoHS compliant PN from 04/2005	NO	1	2454/1	✓	✓	✓	✓	YES	NA			O	O	O	O	O	O			
Transducers																													
TRANS-MOTION TRANSD.	FA 41-42-4B	SF	2/04	3/04	4/04	Au/SnAg	Ni	Cu alloy	Standard Part Number-Remark"Lead Free"	YES	1	NA	NA	4/04	4/04	4/04		NO	50	Pb in copper & Steel alloys Cadmium in wipers.	X	O	X	O	O	O	PCN Lead Free 05/07/04	2/04	
TRANS-MOTION TRANSD.	FA 43	SF	✓	✓	✓	Au	Ni	Cu alloy	Standard Part number	NO	1	NA	NA	2/05	2/05	2/05		NO	50	Pb in copper & Steel alloys Cadmium in wipers.	X	O	X	O	O	O	NA	NA	
TRANS-MOTION TRANSD.	FA 44-47	SF	2/04	3/04	4/04	Sn97/Ag3	Ni	Cu alloy	Standard Part Number-Remark"Lead Free"	YES	1	NA	NA	2/05	2/05	2/05		NO	50	Pb in copper & Steel alloys Cadmium in wipers.	X	O	X	O	O	O	PCN Lead Free 05/07/04	2/04	
TRANS-MOTION TRANSD.	FA 45	SF	2/04	3/04	4/04	Sn97/Ag3	Ni	Cu alloy	Standard Part Number-Remark"Lead Free"	YES	1	NA	NA	2/05	2/05	2/05		NO	50	Pb in copper & Steel alloys Cadmium in wipers.	X	O	X	O	O	O	PCN Lead Free 05/07/04	2/04	
TRANS-MOTION TRANSD.	FA 46	SF	2/04	3/04	4/04	100% Sn	Ni	Cu alloy	Standard Part Number-Remark"Lead Free"	NO	1	NA	NA	2/05	2/05	2/05		NO	50	Pb in copper & Steel alloys Cadmium in wipers.	X	O	X	O	O	O	PCN Lead Free 05/07/04	2/04	
TRANS-MOTION TRANSD.	FA 48	SF	✓	✓	✓	Au	Ni	Cu alloy	Standard Part number	NO	1	NA	NA	2/05	2/05	2/05		NO	50	Pb in copper & Steel alloys Cadmium in wipers.	X	O	X	O	O	O	NA	NA	
TRANS-MOTION TRANSD.	FA 49	SF	2/04	3/04	4/04	100% Sn	Ni	Cu alloy	Standard Part Number-Remark"Lead Free"	NO	1	NA	NA	2/05	2/05	2/05		NO	50	Pb in copper & Steel alloys Cadmium in wipers.	X	O	X	O	O	O	PCN Lead Free 05/07/04	NA	
TRANS-MOTION TRANSD.	248/9	SF	4/04	1/05	1/05	Sn	Ni	Cu alloy	Standard Part Number-Remark"Lead Free"	YES	1	NA	NA	4/04	1/05	1/05		NO	50	Pb in copper & Steel alloys Cadmium in wipers.	X	O	X	O	O	O	PCN Lead Free 05/07/04	2/04	
TRANS-MOTION TRANSD.	357	SF	4/04	1/05	1/05	Au	Ni	Cu alloy	Standard Part Number-Remark"Lead Free"	NO	1	NA	NA	4/04	1/05	1/05		NO	50	Pb in copper & Steel alloys Cadmium in wipers.	X	O	X	O	O	O	PCN Lead Free 05/07/04	26/02/04	
TRANS-MOTION TRANSD.	534	SF	✓	✓	✓	Au	Ni	Cu alloy	Standard Part number	NO	1	NA	NA	1/05	1/05	1/05		NO	50	Pb in copper & Steel alloys Cadmium in wipers.	X	O	X	O	O	O	NA	NA	
TRANS-MOTION TRANSD.	DIALS	SF	✓	✓	✓	NA	NA	NA	Standard Part number	NO	1	NA	NA	1/05	1/05	1/05		NO	50	Pb in copper & Steel alloys Cadmium in wipers.	X	O	X	O	O	O	PCN Lead Free 05/07/04		
Transducers	Load Cells	VT	1/06	1/06	1/06	NA	NA	NA	Standard Part Number	NO	NA	NA	NA	1/06	1/06	1/06	None	NO	50	solder connections	X	O	O	O	O	O	NA	NA	

Lead-Free Family Summary Sheet-Resistor Components

Product Description				Pb Free "2nd-Level Interconnect" Status										Soldering				RoHS Status				China Pollution Act Information (SJ/T11363-2006)								PCN-Status	
Technology/ Product Line	Product Family	Warranty/ Division	Pb-Free Qual. Complete and Report Available (QTY)	Pb-Free Samples available (QTY)	Pb-Free Mass production (QTY)	Termination Finish	Underlayer	Lead or Base material	How to Order-Web (Lead Free)	Tin Lead (Sn/Pb) (Temp. Peak) (In °C) Time Peak (In hrs. / Days)	Moisture Sensitivity Level	PCW/EPCC-JSTD-608C compliant (Temp. Peak) (In °C) Time Peak (In hrs. / Days)	Backward Compatibility	RoHS Qual. Complete and Report Available (QTY)	RoHS-Comp. Samples (QTY)	RoHS-Comp. Mass production (QTY)	Exemptions Used	China ROHS Compliant (YES/NO) 符合/不符合 (是/否)	EPUP (YEARS) 环保使用期限 (年)	Location of Hazardous Substance(s) 有害物质所在地 (国家)	Pb 铅 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Hg 汞 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Cd 镉 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Cr(VI) 六价铬 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	PBB 多溴联苯 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	PBDE 多溴二苯醚 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Product Change Notification Ref. / Refs	Product Change Notification Date			
Transducers	Load Cell Instrumentation	VT	1/06	2/06	1/06	NA	NA	NA	Standard Part Number	NO	NA	NA	NA	1/06	1/06	1/06	None	NO	50	solder connections	X	O	O	O	O	O	NA	NA			
VDR																															
VDR-Std	2322 58X... / 58X...	BC	✓	✓	✓	100% Sn	Ni	Cu	New Part Number 2381 5xx 8xxx from 11/04/2005	NO	1	✓	✓	✓	✓	✓	Pb in contact paste glass fit	NO	50	glass conductive layer	X	O	O	O	O	O	VDR-2004-03	8-Jun-04			
Wirewound																															
Leaded WW	G202	DR	✓	✓	✓	99.99% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	Lead in glass of electronic components	NO	50	Pb in overglaze	X	O	O	O	O	O	PCN 16A / 2004	01 Mar 2004			
Leaded WW	G204	DR	✓	✓	✓	99.99% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	Lead in glass of electronic components	NO	50	Pb in overglaze	X	O	O	O	O	O	PCN 16A / 2004	01 Mar 2004			
Leaded WW	G206	DR	✓	✓	✓	Sn/Ag/Cu	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	Lead in glass of electronic components	NO	50	Pb in overglaze	X	O	O	O	O	O	PCN 16A / 2004	01 Mar 2004			
Leaded WW	G207	DR	✓	✓	✓	Sn/Ag/Cu	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	Lead in glass of electronic components	NO	50	Pb in overglaze	X	O	O	O	O	O	PCN 16A / 2004	01 Mar 2004			
Leaded WW	GWS	DR	✓	✓	✓	Sn/Ag/Cu	None	Cu/NiMn	Standard Part Number	NA	NA	✓	NA	✓	✓	✓	Lead in glass of electronic components	NO	50	Pb in overglaze	X	O	O	O	O	O	NA	NA			
Leaded WW	AC...	BC/DR	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16A / 2004	01 Mar 2004			
Leaded WW	ZS...	BC/DR	✓	✓	✓	100% Sn	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16A / 2004	01 Mar 2004			
Leaded WW	RW...	DR	✓	✓	✓	Sn/Ag/Cu	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16A / 2004	01 Mar 2004			
Leaded WW	ZWO...	DR	✓	✓	✓	Sn/Ag/Cu	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16A / 2004	01 Mar 2004			
Leaded WW	ZWS...	DR	✓	✓	✓	Sn/Ag/Cu	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16A / 2004	01 Mar 2004			
Leaded WW	ZWK...	DR	✓	✓	✓	Sn/Ag/Cu	None	Cu	Standard Part Number	NO	NA	✓	✓	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16A / 2004	01 Mar 2004			
Leaded WW	ZW...	DR	✓	✓	✓	No Plating	None	Cu/NiMn	Standard Part Number	NA	NA	✓	NA	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16A / 2004	01 Mar 2004			
Leaded WW	ZB...	DR	✓	✓	✓	No Plating	None	Cu/NiMn	Standard Part Number	NA	NA	✓	NA	✓	✓	✓	None	YES	NA		O	O	O	O	O	O	PCN 16A / 2004	01 Mar 2004			
WW-SMD	WSH2818	DL	3/05	1/05	4/06	100% Sn	Ni	Cu	Yes 1 260/10/3	✓	3/05	1/05	4/06	None	YES	NA	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-SMD	WSL2816	DL	4/03	4/03	4/03	100% Sn	Ni	Cu	New Package Code-Click for Link	Yes 1 260/10/3	✓	4/03	4/03	4/05	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-SMD	WSR	DL	1/03	1/03	4/04	864 Sn/Ag	NA	Cu	New Package Code-Click for Link	Yes 1 260/10/3	✓	1/03	1/03	3/05	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-SMD	WSL / WSK	DL	1/03	1/03	4/04	100% Sn	Ni	Cu	New Package Code-Click for Link	Yes 1 260/10/3	✓	1/03	1/03	3/05	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-SMD	WSC2515	DL	2/03	2/03	1/05	100% Sn Matte	Ni	Cu	New Package Code-Click for Link	Yes 1 260/10/3	✓	2/03	2/03	4/05	None	YES	NA	NA	NA	Swaged Terminal Vers;	X	O	O	O	O	O	O	NA	NA		
WW-SMD	WSC4527	DL	2/03	2/03	4/04	100% Sn Matte	NA	Cu	New Package Code-Click for Link	Yes 1 260/10/3	✓	2/03	2/03	4/05	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-SMD	WSC927	DL	2/03	2/03	4/04	100% Sn Matte	NA	Cu	New Package Code-Click for Link	Yes 1 260/10/3	✓	2/03	2/03	4/05	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-SMD	WSF2515	DL	2/03	2/03	1/05	100% Sn Matte	Ni	Cu	New Package Code-Click for Link	Yes 1 260/10/3	✓	2/03	2/03	4/05	None	NO	50	Resistor Cap Plating	X	O	O	O	O	O	O	O	NA	NA			
WW-SMD	WSF4527	DL	2/03	2/03	4/04	100% Sn Matte	NA	Cu	New Package Code-Click for Link	Yes 1 260/10/3	✓	2/03	2/03	4/05	None	NO	50	Resistor Cap Plating	X	O	O	O	O	O	O	O	NA	NA			
WW-SMD	WSF2012	DL	4/04	3/04	4/04	100% Sn Matte	Ni	Cu	New Package Code-Click for Link	Yes 1 260/10/3	✓	4/04	3/04	4/05	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-SMD	WSC1/2	DL	4/04	3/04	4/04	100% Sn Matte	Ni	Cu	New Package Code-Click for Link	Yes 1 260/10/3	✓	4/04	3/04	4/05	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-SMD	WSC1	DL	NA	NA	NA	100% Sn Matte	NA	Cu	New Package Code-Click for Link	Yes 1 260/10/3	✓	NA	NA	NA	None	NO	NA	NA	NA	Resistor Cap Plating	O	O	O	O	O	O	NA	NA			
WW-SMD	WSC2	DL	NA	NA	NA	100% Sn Matte	NA	Cu	New Package Code-Click for Link	Yes 1 260/10/3	✓	NA	NA	NA	None	NO	NA	NA	NA	Resistor Cap Plating	O	O	O	O	O	O	NA	NA			
WW-SMD	WSE0805	DL	4/06	2/06	4/06	100% Sn	Ni	NiCr	New Package Code-Click for Link	Yes	PT	PT	4/06	2/06	4/06	None	YES	NA	NA	NA	O	O	O	O	O	O	NA	NA			
WW-SMD	WSL_E	DL	2/06	1/05	1/06	89.3/0.7 Sn/Cu	NA	NiCr	New Package Code-Click for Link	Yes 1	✓	2/06	1/05	1/06	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-LEADED	RS / NS	DL	3/05	2/05	2/05	100% Sn	Ni	Cu	New Package Code-Click for Link	Yes 1 260/10/3	✓	3/05	3/05	2/05	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-LEADED	CW	DL	3/05	2/05	2/05	100% Sn	Ni	Cu clad steel	New Package Code-Click for Link	Yes 1 260/10/3	✓	3/05	3/05	2/05	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-LEADED	G	DL	3/05	2/05	2/05	100% Sn	Ni	Cu clad steel	New Package Code-Click for Link	Yes 1 260/10/3	✓	3/05	3/05	2/05	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-LEADED	CPSL	DL	1/06	3/05	4/05	100% Sn	Sn/Cu IMC	Cu	New Package Code-Click for Link	Yes 1 260/10/3	PT	1/06	3/05	4/05	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-LEADED	CA	DL	1/06	3/05	4/05	100% Sn	Sn/Cu IMC	Cu	New Package Code-Click for Link	Yes 1 260/10/3	PT	1/06	3/05	4/05	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-LEADED	CPL	DL	1/06	3/05	4/05	100% Sn	Sn/Cu IMC	Cu	New Package Code-Click for Link	Yes 1 260/10/3	PT	1/06	3/05	4/05	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-LEADED	CPCX	DL	1/06	3/05	4/05	100% Sn	Sn/Cu IMC	Cu	New Package Code-Click for Link	Yes 1 260/10/3	PT	1/06	3/05	4/05	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-LEADED	CPCP	DL	1/06	3/05	4/05	100% Sn	Sn/Cu IMC	Cu clad Steel	New Package Code-Click for Link	Yes 1 260/10/3	PT	1/06	3/05	4/05	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-LEADED	CPW	DL	1/06	3/05	4/05	100% Sn	Sn/Cu IMC	Cu clad steel	New Package Code-Click for Link	Yes 1 260/10/3	PT	1/06	3/05	4/05	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-LEADED	CP	DL	1/06	3/05	4/05	100% Sn	Sn/Cu IMC	Cu	New Package Code-Click for Link	Yes 1 260/10/3	PT	1/06	3/05	4/05	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-LEADED	LVR	DL	1/06	3/05	1/06	100% Sn	Sn/Cu IMC	Cu	New Package Code-Click for Link	Yes 1 260/10/3	✓	2/06	4/05	2/06	None	NO	50	Pb in molding compound	X	O	O	O	O	O	O	O	NA	NA			
WW-LEADED	CPR	DL	1/07	1/07	2/07	100% Sn	Ni	Steel	New Package Code-Click for Link	Yes 1 260/10/3	PT	1/07	1/07	2/07	None	NO	50	Resistor Lead Plating	X	O	O	O	O	O	O	O	NA	NA			
WW-LEADED	RH	DL	4/06	3/05	2/06	NiPd/Au	NA	Cu clad steel	New Package Code-Click for Link	Yes 1 260/10/3	✓	4/06	1/06	2/06	None	YES	NA	NA	NA		O	O	O	O	O	O	NA	NA			
WW-LEADED	SR	DL	1/06	3/05	1/06	100% Sn	Sn/Cu IMC	Cu	New Package Code-Click for Link	Yes 1 260/10/3	✓	1/06	4/05	1/06	None	NO	50	Resistor Lead Plating	X	O	O	O	O	O	O	O	NA	NA			
WW-LEADED	HL	DL	1/07	1/07	1/07	100% Sn	Ni	Cold Rolled Steel	New Package Code-Click for Link	Yes 1 260/10/3	✓	1/07	1/07	1/07	None	NO	50	Resistor Lead Plating	X	O	O	O	O	O	O	O	NA	NA			
WW-LEADED	SPU	DL	1/07	1/07	1/07	100% Sn	Sn/Cu IMC	Cu	New Package Code-Click for Link	Yes 1 260/10/3	PT	1/07	1/07	1/07	None	NO	50	Resistor Lead Plating	X	O	O	O	O	O	O	O	NA	NA			
WW-LEADED	SPR	DL	TBD	TBD	TBD	customer specific	NA	Numerous	Contact Marketing																						

Lead-Free Family Summary Sheet-Resistor Components

Product Description			Pb Free *2nd-Level Interconnect* Status										Soldering				RoHS Status				China Pollution Act Information (SJ/T11363-2006)								PCN-Status	
Technology/ Product Line	Product Family	Vishay Division	Pb-free Qual. Complete and Report Available (QTY)	Pb-free Samples available (QTY)	Pb-free Mass production (QTY)	Termination Finish	Unorienter	Lead or Base material	How to Order-Web (Lead Free)	Tin Lead (SnPb) Limitation available after Conversion	Moisture Sensitivity Level	PCW/IEC/J-STD-609C compliant (Temp. Peak T _p in °C/Time Peak in hr. sec. /Cycles)	Backward Compatibility	RoHS Qual. Complete and Report Available (QTY)	RoHS-Comp Samples (QTY)	RoHS-Comp Mass production (QTY)	Exemptions Used	China ROHS Compliant (YES/NO) 符合/不符合 (是/否)	EPUP (YEARS) 环境使用期限 (年)	Location of Hazardous Substance(s) 有害物质位置 (所在零件)	Pb 铅 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Hg 汞 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Cd 镉 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	Cr(VI) 六价铬 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	PBB 多溴联苯 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	PBDE 多溴二苯醚 X for C-MCV O for C-MCV 0.1 wt% (SJ/T11363-2006)	PCN Lead Free 05/07/04	Product Change Notification Date		
FIXED RESISTORS-WW	HTS/HPS	SF	4/04	4/04	2/05	Sn99/Cu0.7/Ag0.3	Sn	Cu	Standard Part number	NO	1	260/20/3	✓	2/05	2/05	4/06	Pb in cermet ink	NO	50	Pb in thick film	X	O	O	O	O	O	PCN Lead Free 05/07/04	3/04		
FIXED RESISTORS-WW	SG	SF	4/04	4/04	1/05	100% Sn	None	Cu	Standard Part number	NO	1	260/20/3	✓	4/04	4/04	1/05		YES	NA								PCN Lead Free 05/07/04	3/04		
Plasma Displays																														
DISCRETE PLASMA DISPLAY	PD-XXX	DL	TBD	TBD	TBD	TBD	TBD	TBD	TBD	NA	NA	NA	NO	TBD	TBD	TBD	plasma display Pb & Hg	NO	50	display, solder, connectors	X	X	X	X	X	X		TBD		
PLASMA DISPLAY ASSEMBLIES	APD-XXX	DL	TBD	TBD	TBD	TBD	TBD	TBD	TBD	NA	NA	NA	NO	TBD	TBD	TBD		NO	50	display, solder, components, connectors	X	X	X	X	X	X		TBD		
PLASMA DISPLAY ASSEMBLIES	APE-XXX	DL	TBD	TBD	TBD	TBD	TBD	TBD	TBD	NA	NA	NA	NO	TBD	TBD	TBD	plasma display Pb & Hg	NO	50	thick film resistors	X	O	O	O	O	O		TBD		
TOUCH PANEL ASSEMBLIES	TIP-XXX	DL	TBD	TBD	TBD	TBD	TBD	TBD	TBD	NA	NA	NA	NO	TBD	TBD	TBD		NO	50	solder, components, connectors	X	O	X	X	X	X		TBD		
TOUCH PANEL ASSEMBLIES - RoHS-compliant	TIE-XXX	DL	TBD	TBD	TBD	TBD	TBD	TBD	TBD	NA	NA	NA	NO	TBD	TBD	TBD		NO	50	thick film resistors	X	O	O	O	O	O		TBD		
LED display modules	LED-XXX	DL	TBD	TBD	TBD	TBD	TBD	TBD	TBD	NA	NA	NA	NO	TBD	TBD	TBD		NO	50	solder, components, connectors	X	O	X	X	X	X		TBD		
LED display modules - RoHS-compliant	LEE-XXX	DL	TBD	TBD	TBD	TBD	TBD	TBD	TBD	NA	NA	NA	NO	TBD	TBD	TBD		NO	50	thick film resistors	X	O	O	O	O	O		TBD		
LCD display modules	LCD M,G,X types	DL	TBD	TBD	TBD	TBD	TBD	TBD	TBD	NA	NA	NA	NO	TBD	TBD	TBD		NO	50	solder, components, connectors	X	O	X	X	X	X		TBD		
LCD display modules - RoHS-compliant	LCD N,H,Y types	DL	TBD	TBD	TBD	TBD	TBD	TBD	TBD	NA	NA	NA	NO	TBD	TBD	TBD		NO	50	thick film resistors	X	O	O	O	O	O		TBD		
generic part numbers	28xxxx-xx types	DL	TBD	TBD	TBD	TBD	TBD	TBD	TBD	NA	NA	NA	NO	TBD	TBD	TBD		NO	50	part number specific	X	X	X	X	X	X		TBD		

Notes:
 ● Please contact your local Vishay Sales Office
 √ indicates that the item is complete or compliant. If product is complete/compliant less than a year the actual date is shown.
 NA indicates that the item is not applicable (i.e. not converting to Pb-Free)
 BC=Vishay Bcomponents, CR=Vishay Ceramtec, DR=Vishay Draloric, ES=Vishay ESTA, RO=Vishay Roderstein, SP=Vishay Sprague, VT=Vishay Vitramon

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 ○ : 表示该有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006 标准规定的限量要求以下。 indicate all homogeneous materials' hazardous substances content are below the SJ/T11363-2006 MCV limit
 × : 表示该有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006 标准规定的限量要求。 indicates that the hazardous substance content contained in any one of the homogeneous materials of the part exceeded the MCV limits specified in the Standard SJ/T 11363-2006
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