





Product Change Notification - CYER-01DNRB151

Date: 28 Jun 2010

Product Category: 16-bit Microcontrollers and Digital Signal Controllers; Analog (Linear & Mixed Signal) AND Interface; RF and Security; Touch Sensing Technologies; 8-bit Microcontrollers; All 16-bit Microcontrollers

Device Family:  

Notification subject: CCB# 946 Qualification of different paddle sizes in 18L & 28L SOIC packages at MMS (ATES).

Notification text:

PCN Status:
Intermediate notification

Note: The 28L SOIC package qualification is complete; please view the attached qualification report. The 18L SOIC qualification will conclude at a later date. After the 18L SOIC qualification is complete a final notification will be issued.

Microchip Part#s Affected:
See attachments of Affected Part Numbers Labeled as...
PCN# CYER-01DNRB151_CPN_Affected.xls
PCN# CYER-01DNRB151_CPN_Affected.pdf

Description of Change:
Qualification of different paddle sizes in 18L & 28L SOIC packages at MMS (ATES).

Pre Change:
18L SOIC: 160 x 200 mils paddle.
28L SOIC: 160 x 205 mils paddle.

Post Change:
18L SOIC: 140 x 170 mils paddle.
28L SOIC: 200 x 240 mils paddle.

Impacts to Data Sheet:
None

Reason for Change:
To improve manufacturability

Change Implementation Status:
In Progress

Estimated First Ship Date:
18L SOIC: October 31, 2010 (Date code 1044)
28L SOIC: July 30, 2010 (Date code 1031)

NOTE: Please be advised that during the transition period customers may receive pre and post change parts, due to existing inventory of the pre changed parts.

Markings to Distinguish Revised from Unrevised Devices: (e.g.: Date Code, Device Marking, Ship Container Marking)
Traceability code

Attachment(s): [PCN_CYER-01DNRB151_Affected_CPN_i.pdf](#)
[PCN_CYER-01DNRB151_Affected_CPN_i.xls](#)
[PCN_CYER-01DNRB151_Qual Report_28L.pdf](#)

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MICROCHIP

**QUALIFICATION REPORT
RELIABILITY LABORATORY**

PCN#: CYER-01DNRB151

Date
June 18, 2010

**Qualification of 200X240 mils paddle size in 28L SOIC package at MMS
(ATES)**

Distribution

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MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose	Qualification of 200X240 mils paddle size in 28L SOIC package at MMS (ATES)
CN	BC100797
QUAL ID	Q10049
MP CODE	A5AF31N3XC20
Part No.	PIC16F873-20/SO
Bonding No.	A-024797 Rev. G (Temporary Bonding)
CCB No.	946
<u>Package</u>	
Type	28L SOIC
Package size	300 mils
Die thickness	15 mils
Die size	179.20 x 199.60 mils
<u>Lead Frame</u>	
Paddle size	200 x 240 mils
Material	C194 / Samsung (Korea)
Surface	Ag ring plating
Process	Stamped
Lead Lock	Yes
Part Number	FD0122
<u>Die attach material</u>	
Epoxy	84-1 LMISR4 / Ablestik (China)
Wire	Au wire / Heraeus (China)
Mold Compound	G600 / Sumitomo (China)
Plating Composition	Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Trace Code
ATES110200088	TMPE210427027.300	1015MAR
ATES110200089	TMPE210427027.300	1015MAT
ATES110200090	TMPE210427027.300	1015MAW

Result

Pass Fail _____

28L SOIC (.300") in Strip form assembled by MMS (ATES) pass reliability test per QCI-39000. This package was qualified the Moisture/Reflow Sensitivity Classification Level 1 at 260°C reflow temperature per IPC/JEDEC J-STD-020C standard.

Prepared By: (Mr.Udom Suksansakul) **Date:** June 18, 2010 **(Reliability Engineer)**

Approved By: (Mr. Surasit Phurikhup) **Date:** June 18, 2010 **(Reliability Manager)**

PACKAGE QUALIFICATION REPORT

Qual Report : Q10049

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
<u>MSL</u>								
MSL Level 1/260°C	85°C/ 85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 260°C max System: Vitronics Soltec MR1243 (IPC/JEDEC J-STD-020C)	S12/14/16 (PDC)	135	05/14/10	05/24/10	0/135	Pass	
<u>Precondition</u>								
Electrical Test	Electrical Test :+25°C and 70°C System: J750	S12/14/16 (PDC)	693(0)	05/07/10	05/13/10	693		Good Devices
Bake	Bake 150°C, 24 hrs System: CHINEE	PI-92014B		05/14/10	05/15/10	693		
Moisture Soak	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH	PI-91173B		05/15/10	05/22/10	693		
Convection-Reflow	3x Convection-Reflow 260°C max System: Vitronics Soltec MR1243	PI-91160B		05/22/10	05/22/10	693		
Electrical Test	Electrical Test :+ 25°C and 70°C System: J750	S12/14/16 (PDC)		05/22/10	05/24/10	0/693	Pass	

PACKAGE QUALIFICATION REPORT

Qual Report : Q10049

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
Temp Cycle	Stress Condition: -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H Inspection: External crack inspection all units under 40X Optical magnification	PI-91020B		05/27/10	06/08/10	231		Parts had been pre-conditioned at 260°C
		QCI-33003	30(0)	06/08/10	06/08/10	0/30		
	Electrical Test: +70°C System: J750	S12/14/16 (PDC)	231(0)	06/08/10	06/09/10	0/231	Pass	77 units / lot
	Bond Strength: Bond Shear (12.40 grams) Wire Pull (> 3 grams)	QCI-91022	15 (0) 15 (0)	06/09/10 06/09/10	06/09/10 06/09/10	0/15 0/15	Pass Pass	
Pressure Cooker	Stress Condition: +121°C, 100% RH, 15 PSI, 96 hrs. System: HIRAYAMA TPC-422R	PI-92013B		05/29/10	06/02/10	231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: J750	S12/14/16 (PDC)	231(0)	06/02/10	06/07/10	0/231	Pass	77 units / lot

PACKAGE QUALIFICATION REPORT

Qual Report : Q10049

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X	PI-92010B		05/31/10	06/04/10	231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C and 70°C System: J750	S12/14/16 (PDC)	231(0)	06/04/10	06/07/10	0/231	Pass	77 units / lot
Solderability Temp 245°C	Steam Aging: Temp 93°C,8Hrs System: SAS-3000 Solder Dipping: Solder Temp.245°C Solder material: Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	QCI-31003	22 (0)	05/14/10	05/15/10	22		
				05/15/10	05/15/10	22		
				05/15/10	05/15/10	0/22	Pass	
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: CHINEE Electrical Test: +25°C and 70°C System: J750	PI-92014B S12/14/16 (PDC)		05/14/10	06/07/10	135		45 units / lot
			135(0)	06/07/10	06/08/10	0/135	Pass	
Bond Strength Data Assembly	Bond Shear (12.40 grams)	QCI-91022	30 (0) bonds	-	-	0/30	Pass	
	Wire Pull (> 3 grams)		30 (0) wires	-	-	0/30	Pass	

PCN#_CYER-01DNRB151	PCN#_CYER-01DNRB151
CATALOG_PART_NBR	CATALOG_PART_NBR
18L SOIC	28L SOIC
DSPIC30F2011-20E/SO	AP7675/SO
DSPIC30F2011-20I/SO	CF775-04/SO
DSPIC30F2011-30I/SO	DSPIC30F2010-20E/SO
DSPIC30F2011T-20E/SO	DSPIC30F2010-20I/SO
DSPIC30F2011T-20I/SO	DSPIC30F2010-30I/SO
DSPIC30F2011T-30I/SO	DSPIC30F2010-30I/SOC01
DSPIC33FJ12GP201-E/SO	DSPIC30F2010T-20E/SO
DSPIC33FJ12GP201-I/SO	DSPIC30F2010T-20I/SO
DSPIC33FJ12GP201T-E/SO	DSPIC30F2010T-30I/SO
DSPIC33FJ12GP201T-I/SO	DSPIC30F2012-20E/SO
HA2525-I/SO	DSPIC30F2012-20I/SO
HA2525T-I/SO	DSPIC30F2012-30I/SO
HCS512/SO	DSPIC30F2012-30I/SOB31
HCS512-I/SO	DSPIC30F2012T-20E/SO
HCS512T/SO	DSPIC30F2012T-20I/SO
HCS512T-I/SO	DSPIC30F2012T-30I/SO
HCS512T-I/SO027	DSPIC33FJ12GP202-E/SO
HS10-100S0S/10SS25	DSPIC33FJ12GP202-I/SO
MCP2140A-I/SO	DSPIC33FJ12GP202T-E/SO
MCP2140AT-I/SO	DSPIC33FJ12GP202T-I/SO
MCP2140-I/SO	DSPIC33FJ12MC202-E/SO
MCP2140-I/SORVB	DSPIC33FJ12MC202-E/SOC22
MCP2140T-I/SO	DSPIC33FJ12MC202-I/SO
MCP2140T-I/SORVB	DSPIC33FJ12MC202-I/SOC22
MCP2150-I/SO	DSPIC33FJ12MC202T-E/SO
MCP2150-I/SORVB	DSPIC33FJ12MC202T-E/SOC22
MCP2150T-I/SO	DSPIC33FJ12MC202T-I/SO
MCP2150T-I/SORVB	DSPIC33FJ12MC202T-I/SOC22
MCP2150T-I/SORVC	DSPIC33FJ32GP202-E/SO
MCP2155-I/SO	DSPIC33FJ32GP202-I/SO
MCP2155-I/SORVB	DSPIC33FJ32GP202T-E/SO
MCP2155-I/SORVC	DSPIC33FJ32GP202T-I/SO
MCP2155T-I/SO	DSPIC33FJ32MC202-E/SO
MCP2155T-I/SORVB	DSPIC33FJ32MC202-H/SO
MCP2155T-I/SORVC	DSPIC33FJ32MC202-I/SO
MCP23009-E/SO	DSPIC33FJ32MC202T-E/SO
MCP23009T-E/SO	DSPIC33FJ32MC202T-H/SO
MCP23S09-E/SO	DSPIC33FJ32MC202T-I/SO
MCP23S09T-E/SO	ENC28J60/SO
MCP2510-E/SO	ENC28J60/SOC01
MCP2510-I/SO	ENC28J60-I/SO
MCP2510T-E/SO	ENC28J60-I/SOC02
MCP2510T-I/SO	ENC28J60-I/SOC04
MCP2515-E/SO	ENC28J60T/SO
MCP2515-E/SORB2	ENC28J60T/SOC01
MCP2515-E/SORB4	ENC28J60T-I/SO
MCP2515-I/SO	HA0124-I/SO
MCP2515-I/SORB2	HA0124T-I/SO

MCP2515-I/SORB4	HA1047-I/SO
MCP2515T-E/SO	HA1047T-I/SO
MCP2515T-E/SORB2	HA1126/SO
MCP2515T-E/SORB4	HA1126/SO012
MCP2515T-I/SO	HA1126/SO013
MCP2515T-I/SORB2	HA1126T/SO
MCP2515T-I/SORB4	HA1126T/SO012
PIC16C54-10/SO	HA1126T/SO013
PIC16C54-10I/SO	HA1126T/SO202
PIC16C54A-04/SO	HA1573T-I/SOC19
PIC16C54A-04E/SO	HA2068-I/SO
PIC16C54A-04I/SO	HA2068T-I/SO
PIC16C54A-04I/SO117	HA3078-I/SO
PIC16C54A-10/SO	HA3078T-I/SO
PIC16C54A-10E/SO	HA3089-I/SO
PIC16C54A-10I/SO	HA3099/SO
PIC16C54A-20/SO	HA4016-I/SOC03
PIC16C54A-20I/SO	HA4231-I/SO
PIC16C54AT-04/SO	HA4231-I/SO011
PIC16C54AT-04/SO048	HA4231T-I/SO011
PIC16C54AT-04I/SO	MCP23016-I/SO
PIC16C54AT-04I/SO068	MCP23016T-I/SO
PIC16C54AT-04I/SO071	MCP23017-E/SO
PIC16C54AT-04I/SO093	MCP23017T-E/SO
PIC16C54AT-04I/SO117	MCP23018-E/SO
PIC16C54AT-20/SO	MCP23018T-E/SO
PIC16C54AT-20I/SO	MCP23S17-E/SO
PIC16C54-HS/SO	MCP23S17T-E/SO
PIC16C54-HSE/SO	MCP23S18-E/SO
PIC16C54-HSI/SO	MCP23S18T-E/SO
PIC16C54-LP/SO	MCP722B-I/SOV02
PIC16C54-LPI/SO	MCV28A-I/SO
PIC16C54-LPI/SO027	MCV28AT-I/SO
PIC16C54-RC/SO	MTR9657-I/SO
PIC16C54-RC/SO241	PIC16C55-10/SO
PIC16C54-RCE/SO	PIC16C55-10I/SO
PIC16C54-RCI/SO	PIC16C55A-04/SO
PIC16C54T-10/SO	PIC16C55A-04I/SO
PIC16C54T-RC/SO222	PIC16C55A-20/SO
PIC16C54T-RCI/SO	PIC16C55A-20I/SO
PIC16C54T-XT/SO	PIC16C55A-40/SO
PIC16C54T-XTI/SO	PIC16C55AT-04/SO
PIC16C54-XT/SO	PIC16C55AT-20/SO
PIC16C54-XTE/SO	PIC16C55AT-20I/SO
PIC16C54-XTI/SO	PIC16C55-HS/SO
PIC16C554-04/SO	PIC16C55-HSI/SO
PIC16C554-04I/SO	PIC16C55-LP/SO
PIC16C554-20/SO	PIC16C55-LPI/SO
PIC16C554-20I/SO	PIC16C55-RC/SO
PIC16C554T-04/SO	PIC16C55-RCI/SO
PIC16C554T-04I/SO	PIC16C55T-HS/SO
PIC16C558-04/SO	PIC16C55T-XT/SO

PIC16C558-04E/SO	PIC16C55-XT/SO
PIC16C558-04I/SO	PIC16C55-XTI/SO
PIC16C558-20/SO	PIC16C57-10/SO
PIC16C558-20I/SO	PIC16C57-10I/SO
PIC16C558T-04/SO	PIC16C57C-04/SO
PIC16C558T-04I/SO	PIC16C57C-04E/SO
PIC16C558T-20/SO	PIC16C57C-04I/SO
PIC16C56-10/SO	PIC16C57C-04I/SOC05
PIC16C56-10I/SO	PIC16C57C-20/SO
PIC16C56A-04/SO	PIC16C57C-20/SO028
PIC16C56A-04E/SO	PIC16C57C-20/SO040
PIC16C56A-04I/SO	PIC16C57C-20E/SO
PIC16C56A-20/SO	PIC16C57C-20I/SO
PIC16C56A-20E/SO	PIC16C57C-40/SO
PIC16C56A-20I/SO	PIC16C57CT-04/SO
PIC16C56A-40/SO	PIC16C57CT-04/SO055
PIC16C56AT-04/SO	PIC16C57CT-04/SO059
PIC16C56AT-04/SO027	PIC16C57CT-04I/SO
PIC16C56AT-04I/SO	PIC16C57CT-04I/SO024
PIC16C56AT-04I/SO025	PIC16C57CT-20I/SO
PIC16C56AT-04I/SO030	PIC16C57-HS/SO
PIC16C56AT-04I/SO032	PIC16C57-HSI/SO
PIC16C56AT-04I/SO034	PIC16C57-LP/SO
PIC16C56AT-04I/SO038	PIC16C57-LPE/SO
PIC16C56AT-04I/SO039	PIC16C57-LPI/SO
PIC16C56-HS/SO	PIC16C57-RC/SO
PIC16C56-HSI/SO	PIC16C57-RCI/SO
PIC16C56-LP/SO	PIC16C57T-HS/SO
PIC16C56-LPE/SO	PIC16C57T-HSI/SO
PIC16C56-LPI/SO	PIC16C57T-LPI/SO
PIC16C56-RC/SO	PIC16C57T-LPI/SO235
PIC16C56-RCI/SO	PIC16C57T-RC/SO
PIC16C56T-HS/SO	PIC16C57T-XTI/SO
PIC16C56T-HSI/SO	PIC16C57-XT/SO
PIC16C56-XT/SO	PIC16C57-XTE/SO
PIC16C56-XTE/SO	PIC16C57-XTI/SO
PIC16C56-XTI/SO	PIC16C62A-04/SO
PIC16C58B-04/SO	PIC16C62A-04I/SO
PIC16C58B-04E/SO	PIC16C62A-10/SO
PIC16C58B-04I/SO	PIC16C62A-10I/SO
PIC16C58B-04I/SO069	PIC16C62A-20/SO
PIC16C58B-20/SO	PIC16C62A-20I/SO
PIC16C58B-20E/SO	PIC16C62B-04/SO
PIC16C58B-20I/SO	PIC16C62B-04I/SO
PIC16C58B-40/SO	PIC16C62B-20/SO
PIC16C58BT-04/SO	PIC16C62B-20I/SO
PIC16C58BT-04I/SO	PIC16C62BT-04/SO047
PIC16C58BT-04I/SO069	PIC16C62BT-04I/SO
PIC16C620-04/SO	PIC16C62BT-04I/SO047
PIC16C620-04I/SO	PIC16C62BT-20/SO
PIC16C620-20/SO	PIC16C63-04/SO
PIC16C620-20I/SO	PIC16C63-04E/SO

PIC16C620A-04/SO	PIC16C63-04/SO
PIC16C620A-04E/SO	PIC16C63-10/SO
PIC16C620A-04I/SO	PIC16C63-20/SO
PIC16C620A-20/SO	PIC16C63-20I/SO
PIC16C620A-20E/SO	PIC16C63A-04/SO
PIC16C620A-20I/SO	PIC16C63A-04E/SO
PIC16C620A-40/SO	PIC16C63A-04I/SO
PIC16C620AT-04/SO	PIC16C63A-20/SO
PIC16C620AT-04/SO029	PIC16C63A-20E/SO
PIC16C620AT-04/SO058	PIC16C63A-20I/SO
PIC16C620AT-04I/SO	PIC16C63AT-04/SO
PIC16C620AT-04I/SO065	PIC16C63AT-04I/SO
PIC16C620AT-20/SO	PIC16C63AT-04I/SO052
PIC16C620AT-20I/SO	PIC16C63AT-20I/SO
PIC16C620T-04/SO	PIC16C63AT-20I/SO029
PIC16C620T-04I/SO	PIC16C63AT-20I/SO030
PIC16C620T-20I/SO	PIC16C72-04/SO
PIC16C621-04/SO	PIC16C72-04E/SO
PIC16C621-04E/SO	PIC16C72-04I/SO
PIC16C621-04I/SO	PIC16C72-10I/SO
PIC16C621-20/SO	PIC16C72-20/SO
PIC16C621-20I/SO	PIC16C72-20E/SO
PIC16C621A-04/SO	PIC16C72A-04/SO
PIC16C621A-04E/SO	PIC16C72A-04E/SO
PIC16C621A-04I/SO	PIC16C72A-04I/SO
PIC16C621A-20/SO	PIC16C72A-04I/SO4AP
PIC16C621A-20E/SO	PIC16C72A-20/SO
PIC16C621A-20I/SO	PIC16C72A-20I/SO
PIC16C621A-40/SO	PIC16C72AT-04/SO
PIC16C621AT-04/SO	PIC16C72AT-04/SO091
PIC16C621AT-04E/SO	PIC16C72AT-04I/SO
PIC16C621AT-04I/SO	PIC16C72AT-04I/SO077
PIC16C621AT-04I/SO050	PIC16C72AT-20I/SO
PIC16C621AT-20/SO	PIC16C73A-04/SO
PIC16C621AT-20I/SO	PIC16C73A-04I/SO
PIC16C621AT-20I/SO051	PIC16C73A-10/SO
PIC16C621AT-20I/SO060	PIC16C73A-10I/SO
PIC16C621T-04/SO	PIC16C73A-20/SO
PIC16C621T-04/SO018	PIC16C73A-20I/SO
PIC16C621T-04I/SO	PIC16C73AT-04/SO
PIC16C622-04/SO	PIC16C73AT-10/SO
PIC16C622-04I/SO	PIC16C73B-04/SO
PIC16C622-20/SO	PIC16C73B-04E/SO
PIC16C622-20E/SO	PIC16C73B-04I/SO
PIC16C622-20I/SO	PIC16C73B-04I/SO4AP
PIC16C622A-04/SO	PIC16C73B-20/SO
PIC16C622A-04E/SO	PIC16C73B-20E/SO
PIC16C622A-04I/SO	PIC16C73B-20I/SO
PIC16C622A-20/SO	PIC16C73B-20I/SOC82
PIC16C622A-20E/SO	PIC16C73BT-04/SO
PIC16C622A-20I/SO	PIC16C73BT-04I/SO
PIC16C622A-40/SO	PIC16C73BT-20E/SO

PIC16C622AT-04/SO	PIC16C73BT-20I/SO
PIC16C622AT-04/SO026	PIC16C773/SO
PIC16C622AT-04/SO035	PIC16C773-I/SO
PIC16C622AT-04E/SO	PIC16C773T-I/SO
PIC16C622AT-04E/SO061	PIC16CR57C-04/SO037
PIC16C622AT-04I/SO	PIC16CR57CT-04/SO035
PIC16C622AT-04I/SO071	PIC16CR57CT-04/SO050
PIC16C622AT-20/SO	PIC16CR57CT-04I/SO045
PIC16C622AT-20/SOC03	PIC16CR57CT-04I/SO051
PIC16C622AT-20E/SO	PIC16CR57CT-04I/SO052
PIC16C622AT-20I/SO	PIC16CR57CT-20I/SO033
PIC16C622T-04I/SO	PIC16CR72-20/SO053
PIC16C622T-20/SO	PIC16CR72-20I/SO049
PIC16C622T-20I/SO	PIC16F1933-E/SO
PIC16C710-04/SO	PIC16F1933-I/SO
PIC16C710-04E/SO	PIC16F1933T-I/SO
PIC16C710-04I/SO	PIC16F1936-E/SO
PIC16C710-20/SO	PIC16F1936-I/SO
PIC16C710-20E/SO	PIC16F1936T-I/SO
PIC16C710-20I/SO	PIC16F1938-E/SO
PIC16C71-04/SO	PIC16F1938-I/SO
PIC16C71-04I/SO	PIC16F1938T-I/SO
PIC16C710T-04/SO	PIC16F57-E/SO
PIC16C710T-20I/SO	PIC16F57-E/SOG
PIC16C711-04/SO	PIC16F57-I/SO
PIC16C711-04E/SO	PIC16F57-I/SOC04
PIC16C711-04I/SO	PIC16F57-I/SOG
PIC16C711-04I/SO035	PIC16F57T-E/SO
PIC16C711-20/SO	PIC16F57T-E/SOG
PIC16C711-20E/SO	PIC16F57T-I/SO
PIC16C711-20I/SO	PIC16F57T-I/SO028
PIC16C711T-04/SO	PIC16F57T-I/SOG
PIC16C711T-04/SO052	PIC16F722-E/SO
PIC16C711T-04E/SO	PIC16F722-I/SO
PIC16C711T-04I/SO	PIC16F722-I/SOVAO
PIC16C711T-20/SO	PIC16F722T-I/SO
PIC16C711T-20I/SO	PIC16F722T-I/SOVAO
PIC16C71-20/SO	PIC16F723-E/SO
PIC16C712-04/SO	PIC16F723-I/SO
PIC16C712-04E/SO	PIC16F723T-I/SO
PIC16C712-04I/SO	PIC16F726-E/SO
PIC16C71-20I/SO	PIC16F726-I/SO
PIC16C712-20/SO	PIC16F726T-E/SO
PIC16C712-20E/SO	PIC16F726T-I/SO
PIC16C712-20I/SO	PIC16F72-E/SO
PIC16C712T-04/SO	PIC16F72-I/SO
PIC16C712T-04/SO045	PIC16F72-I/SO4AP
PIC16C715-04/SO	PIC16F72T-E/SO
PIC16C715-04E/SO	PIC16F72T-I/SO
PIC16C715-04I/SO	PIC16F72T-I/SO077
PIC16C715-20/SO	PIC16F72T-I/SO078
PIC16C715-20E/SO	PIC16F737-E/SO

PIC16C715-20I/SO	PIC16F737-I/SO
PIC16C715T-04/SO	PIC16F737-I/SOC02
PIC16C715T-04I/SO	PIC16F737T-E/SO
PIC16C715T-04I/SO053	PIC16F737T-I/SO
PIC16C715T-20/SO	PIC16F73-E/SO
PIC16C715T-20E/SO	PIC16F73-I/SO
PIC16C715T-20I/SO	PIC16F73-I/SO143
PIC16C716-04/SO	PIC16F73-I/SO4AP
PIC16C716-04E/SO	PIC16F73-I/SOC17
PIC16C716-04I/SO	PIC16F73T-E/SO
PIC16C716-20/SO	PIC16F73T-I/SO
PIC16C716-20E/SO	PIC16F73T-I/SO034
PIC16C716-20I/SO	PIC16F73T-I/SO088
PIC16C716T-04I/SO	PIC16F73T-I/SO131
PIC16C716T-20/SO	PIC16F73T-I/SO148
PIC16C716T-20I/SO	PIC16F73T-I/SO150
PIC16C717/SO	PIC16F767-E/SO
PIC16C717/SOHXX	PIC16F767-I/SO
PIC16C717-E/SO	PIC16F767T-I/SO
PIC16C717-I/SO	PIC16F76-E/SO
PIC16C717T/SO	PIC16F76-I/SO
PIC16C717T-I/SO	PIC16F76-I/SOMCL
PIC16C71T-04/SO	PIC16F76T-I/SO
PIC16C71T-04I/SO	PIC16F76T-I/SO073
PIC16CR54AT-04/SO019	PIC16F76T-I/SO074
PIC16CR54AT-04/SO182	PIC16F76T-I/SO075
PIC16CR58B-04/SO056	PIC16F870-E/SO
PIC16CR58B-04/SO062	PIC16F870-I/SO
PIC16CR58BT-04/SO073	PIC16F870T-I/SO
PIC16CR58BT-04/SO074	PIC16F872-E/SO
PIC16CR620AT-04I/SO014	PIC16F872-I/SO
PIC16CR620AT-04I/SO016	PIC16F872T-I/SO
PIC16CR620AT-04I/SO017	PIC16F872T-I/SOC10
PIC16CR620AT-04I/SO020	PIC16F873A-E/SO
PIC16CR83T-04/SO023	PIC16F873A-I/SO
PIC16F1826-E/SO	PIC16F873A-I/SOC07
PIC16F1826-I/SO	PIC16F873AT-I/SO
PIC16F1826-I/SOC02	PIC16F873AT-I/SO024
PIC16F1826T-I/SO	PIC16F873AT-I/SO025
PIC16F1826T-I/SOC02	PIC16F873AT-I/SO039
PIC16F1827-E/SO	PIC16F876A-E/SO
PIC16F1827-I/SO	PIC16F876A-E/SOC32
PIC16F1827T-I/SO	PIC16F876A-I/SO
PIC16F627-04/SO	PIC16F876AT-E/SO021
PIC16F627-04E/SO	PIC16F876AT-E/SO040
PIC16F627-04I/SO	PIC16F876AT-I/SO
PIC16F627-20/SO	PIC16F882-E/SO
PIC16F627-20E/SO	PIC16F882-I/SO
PIC16F627-20I/SO	PIC16F882-I/SO024
PIC16F627A-E/SO	PIC16F882-I/SO027
PIC16F627A-I/SO	PIC16F882-I/SO028
PIC16F627A-I/SOC06	PIC16F882T-I/SO

PIC16F627AT-E/SO	PIC16F882T-I/SO022
PIC16F627AT-I/SO	PIC16F882T-I/SO024
PIC16F627AT-I/SO027	PIC16F882T-I/SO027
PIC16F627AT-I/SO034	PIC16F882T-I/SO028
PIC16F627T-04/SO	PIC16F883-E/SO
PIC16F627T-04I/SO	PIC16F883-I/SO
PIC16F627T-04I/SO038	PIC16F883T-E/SO
PIC16F627T-20/SO	PIC16F883T-I/SO
PIC16F627T-20I/SO	PIC16F886-E/SO
PIC16F628-04/SO	PIC16F886-I/SO
PIC16F628-04E/SO	PIC16F886-I/SO024
PIC16F628-04I/SO	PIC16F886T-I/SO
PIC16F628-20/SO	PIC16F886T-I/SO024
PIC16F628-20E/SO	PIC16F886T-I/SO025
PIC16F628-20I/SO	PIC16F886T-I/SO028
PIC16F628A-E/SO	PIC16F886T-I/SO029
PIC16F628A-I/SO	PIC16F886T-I/SO032
PIC16F628A-I/SO063	PIC16F913-E/SO
PIC16F628A-I/SO064	PIC16F913-I/SO
PIC16F628A-I/SO065	PIC16F913T-I/SO
PIC16F628AT-E/SO	PIC16F916-E/SO
PIC16F628AT-I/SO	PIC16F916-I/SO
PIC16F628AT-I/SO044	PIC16F916-I/SOC05
PIC16F628AT-I/SO051	PIC16F916T-I/SO
PIC16F628AT-I/SO052	PIC16F916T-I/SOC05
PIC16F628AT-I/SO063	PIC16LC55A-04/SO
PIC16F628AT-I/SO064	PIC16LC55A-04I/SO
PIC16F628AT-I/SO065	PIC16LC57C-04/SO
PIC16F628AT-I/SO070	PIC16LC57C-04I/SO
PIC16F628T-04/SO	PIC16LC57CT-04I/SO079
PIC16F628T-04I/SO	PIC16LC62A-04/SO
PIC16F628T-20/SO	PIC16LC62A-04I/SO
PIC16F628T-20I/SO	PIC16LC62AT-04I/SO
PIC16F648A-E/SO	PIC16LC62B-04/SO
PIC16F648A-I/SO	PIC16LC62B-04I/SO
PIC16F648A-I/SOC06	PIC16LC62BT-04/SO
PIC16F648A-I/SOC20	PIC16LC63-04/SO
PIC16F648AT-E/SO	PIC16LC63-04I/SO
PIC16F648AT-I/SO	PIC16LC63A-04/SO
PIC16F648AT-I/SO029	PIC16LC63A-04I/SO
PIC16F648AT-I/SO044	PIC16LC63AT-04I/SO
PIC16F648AT-I/SO047	PIC16LC72-04/SO
PIC16F648AT-I/SOC06	PIC16LC72-04I/SO
PIC16F648AT-I/SOC12	PIC16LC72A-04/SO
PIC16F648AT-I/SOC20	PIC16LC72A-04/SO043
PIC16F83-04/SO	PIC16LC72A-04I/SO
PIC16F83-04I/SO	PIC16LC72AT-04/SO
PIC16F84-04/SO	PIC16LC73A-04/SO
PIC16F84-04I/SO	PIC16LC73A-04I/SO
PIC16F84-10/SO	PIC16LC73B-04/SO
PIC16F84-10I/SO	PIC16LC73B-04I/SO
PIC16F84A-04/SO	PIC16LC773/SO

PIC16F84A-04/SO049	PIC16LC773-I/SO
PIC16F84A-04I/SO	PIC16LF1933-E/SO
PIC16F84A-20/SO	PIC16LF1933-I/SO
PIC16F84A-20I/SO	PIC16LF1933T-I/SO
PIC16F84AT-04/SO	PIC16LF1936-E/SO
PIC16F84AT-04I/SO	PIC16LF1936-I/SO
PIC16F84AT-20/SO	PIC16LF1936T-I/SO
PIC16F84AT-20I/SO	PIC16LF1938-E/SO
PIC16F84T-04/SO	PIC16LF1938-I/SO
PIC16F84T-10/SO	PIC16LF1938T-I/SO
PIC16F87-E/SO	PIC16LF722-E/SO
PIC16F87-I/SO	PIC16LF722-I/SO
PIC16F87-I/SO040	PIC16LF722T-I/SO
PIC16F87-I/SO042	PIC16LF723-E/SO
PIC16F87T-E/SO	PIC16LF723-I/SO
PIC16F87T-I/SO	PIC16LF723T-I/SO
PIC16F87T-I/SO039	PIC16LF726-E/SO
PIC16F87T-I/SO042	PIC16LF726-I/SO
PIC16F88-E/SO	PIC16LF726T-I/SO
PIC16F88-I/SO	PIC16LF72-I/SO
PIC16F88T-I/SO	PIC16LF72-I/SO067
PIC16F88T-I/SO029	PIC16LF72T-I/SO
PIC16F88T-I/SO035	PIC16LF737-I/SO
PIC16HV540-04/SO	PIC16LF737T-I/SO
PIC16HV540-04/SO021	PIC16LF73-E/SO
PIC16HV540-04I/SO	PIC16LF73-I/SO
PIC16HV540-20/SO	PIC16LF73T-E/SO
PIC16HV540-20I/SO	PIC16LF73T-I/SO
PIC16HV540T-04/SO	PIC16LF73T-I/SOC12
PIC16LC54A-04/SO	PIC16LF767-I/SO
PIC16LC54A-04/SO074	PIC16LF76-I/SO
PIC16LC54A-04I/SO	PIC16LF76-I/SOMCL
PIC16LC554-04/SO	PIC16LF76T-I/SO
PIC16LC554-04I/SO	PIC16LF76T-I/SO077
PIC16LC554T-04/SO	PIC16LF76T-I/SO087
PIC16LC558-04/SO	PIC16LF870-I/SO
PIC16LC558-04I/SO	PIC16LF870T-I/SO
PIC16LC558T-04I/SO	PIC16LF872-I/SO
PIC16LC56A-04/SO	PIC16LF872T-I/SO
PIC16LC56A-04I/SO	PIC16LF873A-I/SO
PIC16LC58B-04/SO	PIC16LF873AT-I/SO
PIC16LC58B-04I/SO	PIC16LF876A-I/SO
PIC16LC620-04/SO	PIC16LF876AT-I/SO
PIC16LC620-04/SOC29	PIC18F14K22-ICE/SO
PIC16LC620-04I/SO	PIC18F2221-E/SO
PIC16LC620A-04/SO	PIC18F2221-I/SO
PIC16LC620A-04I/SO	PIC18F2321-E/SO
PIC16LC620AT-04/SO	PIC18F2321-I/SO
PIC16LC621-04/SO	PIC18F2321T-I/SO
PIC16LC621-04I/SO	PIC18F23K20-E/SO
PIC16LC621A-04/SO	PIC18F23K20-I/SO
PIC16LC621A-04I/SO	PIC18F23K20T-I/SO

PIC16LC621AT-04/SO	PIC18F2420-E/SO
PIC16LC621AT-04I/SO	PIC18F2420-E/SO020
PIC16LC622-04/SO	PIC18F2420-I/SO
PIC16LC622-04I/SO	PIC18F2420-I/SO023
PIC16LC622A-04/SO	PIC18F2420-I/SO024
PIC16LC622A-04E/SO	PIC18F2420-I/SOC01
PIC16LC622A-04I/SO	PIC18F2420T-E/SO
PIC16LC622AT-04/SO	PIC18F2420T-E/SO020
PIC16LC622AT-04I/SO	PIC18F2420T-I/SO
PIC16LC622AT-04I/SO045	PIC18F2420T-I/SO024
PIC16LC622T-04/SO	PIC18F2423-E/SO
PIC16LC622T-04I/SO	PIC18F2423-I/SO
PIC16LC710-04/SO	PIC18F2423T-I/SO
PIC16LC710-04I/SO	PIC18F2450-I/SO
PIC16LC71-04/SO	PIC18F2450-I/SO104
PIC16LC71-04I/SO	PIC18F2450-I/SO108
PIC16LC710T-04/SO	PIC18F2450-I/SO203
PIC16LC711-04/SO	PIC18F2450T-I/SO
PIC16LC711-04/SO043	PIC18F2450T-I/SO104
PIC16LC711-04/SO053	PIC18F24J11-I/SO
PIC16LC711-04E/SO	PIC18F24J11T-I/SO
PIC16LC711-04I/SO	PIC18F24J50-I/SO
PIC16LC711-04I/SO048	PIC18F24J50T-I/SO
PIC16LC711T-04/SO	PIC18F24K20-E/SO
PIC16LC711T-04/SO053	PIC18F24K20-I/SO
PIC16LC711T-04I/SO	PIC18F24K20-I/SO024
PIC16LC711T-04I/SOC53	PIC18F24K20-I/SO025
PIC16LC712-04/SO	PIC18F24K20-I/SOLPR
PIC16LC712-04I/SO	PIC18F24K20T-I/SO
PIC16LC712T-04/SO	PIC18F24K20T-I/SOLPR
PIC16LC715-04/SO	PIC18F2510-E/SO
PIC16LC715-04I/SO	PIC18F2510-I/SO
PIC16LC715T-04I/SO	PIC18F2510T-I/SO
PIC16LC716-04/SO	PIC18F2510T-I/SO021
PIC16LC716-04I/SO	PIC18F2520-E/SO
PIC16LC716T-04/SO	PIC18F2520-E/SO032
PIC16LC716T-04/SO022	PIC18F2520-I/SO
PIC16LC716T-04I/SO	PIC18F2520-I/SOB3
PIC16LC717/SO	PIC18F2520-I/SOC01
PIC16LC717-E/SO	PIC18F2520T-E/SO
PIC16LC717-I/SO	PIC18F2520T-E/SO032
PIC16LC717T/SO	PIC18F2520T-E/SO043
PIC16LC71T-04I/SO	PIC18F2520T-E/SOC06
PIC16LCR54A-04/SO081	PIC18F2520T-I/SO
PIC16LCR58BT-04I/SO053	PIC18F2520T-I/SO040
PIC16LF1826-E/SO	PIC18F2520T-I/SOB3
PIC16LF1826-I/SO	PIC18F2520T-I/SOC01
PIC16LF1826T-I/SO	PIC18F2520T-I/SOC11
PIC16LF1827-E/SO	PIC18F2523-E/SO
PIC16LF1827-I/SO	PIC18F2523-I/SO
PIC16LF1827T-I/SO	PIC18F2523-I/SOB3
PIC16LF627-04/SO	PIC18F2523T-I/SO

PIC16LF627-04I/SO	PIC18F2523T-I/SOB3
PIC16LF627A-I/SO	PIC18F25J11-I/SO
PIC16LF627A-I/SOC12	PIC18F25J11T-I/SO
PIC16LF627AT-I/SO	PIC18F25J50-I/SO
PIC16LF627AT-I/SOC12	PIC18F25J50T-I/SO
PIC16LF627T-04/SO	PIC18F25K20-E/SO
PIC16LF627T-04/SO028	PIC18F25K20-I/SO
PIC16LF628-04/SO	PIC18F25K20-I/SOLPR
PIC16LF628-04I/SO	PIC18F25K20T-I/SO
PIC16LF628A-I/SO	PIC18F25K20T-I/SOLPR
PIC16LF628A-I/SOC06	PIC18F25K22-E/SO
PIC16LF628AT-I/SO	PIC18F25K22-I/SO
PIC16LF628AT-I/SOC06	PIC18F25K22T-I/SO
PIC16LF628T-04/SO	PIC18F26J11-I/SO
PIC16LF628T-04I/SO	PIC18F26J11T-I/SO
PIC16LF628T-04I/SO039	PIC18F26J50-I/SO
PIC16LF648A-I/SO	PIC18F26J50T-I/SO
PIC16LF648AT-I/SO	PIC18F26K20-E/SO
PIC16LF648AT-I/SO038	PIC18F26K20-I/SO
PIC16LF648AT-I/SO043	PIC18F26K20-I/SOLPR
PIC16LF648AT-I/SO045	PIC18F26K20T-I/SO
PIC16LF83-04/SO	PIC18F26K20T-I/SOLPR
PIC16LF84-04/SO	PIC18LF14K22-ICE/SO
PIC16LF84-04I/SO	PIC18LF2221-I/SO
PIC16LF84A-04/SO	PIC18LF2321-I/SO
PIC16LF84A-04I/SO	PIC18LF2321T-I/SO
PIC16LF84AT-04I/SO	PIC18LF2420-I/SO
PIC16LF84T-04/SO	PIC18LF2420T-E/SO
PIC16LF84T-04I/SO	PIC18LF2420T-E/SOC03
PIC16LF87-I/SO	PIC18LF2420T-I/SO
PIC16LF87T-I/SO	PIC18LF2423-I/SO
PIC16LF88-I/SO	PIC18LF2423T-I/SO
PIC16LF88T-I/SO	PIC18LF2450-I/SO
PIC16LF88T-I/SO032	PIC18LF24J11-I/SO
PIC16LF88T-I/SO036	PIC18LF24J11T-I/SO
PIC16LF88T-I/SO037	PIC18LF24J50-I/SO
PIC16LF88T-I/SO038	PIC18LF24J50T-I/SO
PIC16LV54A-02/SO	PIC18LF2510-I/SO
PIC16LV54A-02I/SO	PIC18LF2510T-I/SO
PIC16LV54A-02I/SO050	PIC18LF2520-I/SO
PIC16LV54AT-02I/SO	PIC18LF2520-I/SO035
PIC16LV54AT-02I/SO050	PIC18LF2520-I/SO041
PIC18F1220-E/SO	PIC18LF2520-I/SO048
PIC18F1220-H/SO	PIC18LF2520-I/SOB3
PIC18F1220-I/SO	PIC18LF2520T-I/SO
PIC18F1220T-E/SO	PIC18LF2520T-I/SO030
PIC18F1220T-I/SO	PIC18LF2520T-I/SO034
PIC18F1220T-I/SO021	PIC18LF2520T-I/SO035
PIC18F1230-E/SO	PIC18LF2520T-I/SO036
PIC18F1230-I/SO	PIC18LF2520T-I/SOB3
PIC18F1230T-E/SO	PIC18LF2520T-I/SOC02
PIC18F1230T-I/SO	PIC18LF2523-I/SO

PIC18F1320-E/SO	PIC18LF2523-I/SOB3
PIC18F1320-H/SO	PIC18LF2523T-I/SO
PIC18F1320-I/SO	PIC18LF2523T-I/SOB3
PIC18F1320-I/SO243	PIC18LF25J11-I/SO
PIC18F1320-I/SOC04	PIC18LF25J11T-I/SO
PIC18F1320-I/SOC10	PIC18LF25J50-I/SO
PIC18F1320T-E/SO	PIC18LF25J50T-I/SO
PIC18F1320T-E/SOC15	PIC18LF25K22-E/SO
PIC18F1320T-I/SO	PIC18LF25K22-I/SO
PIC18F1320T-I/SO020	PIC18LF25K22T-I/SO
PIC18F1320T-I/SO230	PIC18LF26J11-I/SO
PIC18F1330-E/SO	PIC18LF26J11T-I/SO
PIC18F1330-I/SO	PIC18LF26J50-I/SO
PIC18F1330T-E/SO	PIC18LF26J50T-I/SO
PIC18F1330T-I/SO	PIC24F08KA102-E/SO
PIC18LF1220-I/SO	PIC24F08KA102-I/SO
PIC18LF1230-I/SO	PIC24F08KA102T-I/SO
PIC18LF1320-I/SO	PIC24F16KA102-E/SO
PIC18LF1320T-I/SO	PIC24F16KA102-I/SO
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PIC24HJ12GP201-E/SO	PIC24FJ16GA002-E/SO
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PIC24HJ12GP201T-E/SO	PIC24FJ16GA002-I/SOB4
PIC24HJ12GP201T-I/SO	PIC24FJ16GA002-I/SOB5
	PIC24FJ16GA002T-E/SO
	PIC24FJ16GA002T-I/SO
	PIC24FJ32GA002-E/SO
	PIC24FJ32GA002-I/SO
	PIC24FJ32GA002-I/SOB5
	PIC24FJ32GA002T-I/SO
	PIC24FJ32GA002T-I/SO025
	PIC24FJ32GA102-E/SO
	PIC24FJ32GA102-I/SO
	PIC24FJ32GA102T-I/SO
	PIC24FJ32GB002-I/SO
	PIC24FJ32GB002T-I/SO
	PIC24FJ48GA002-E/SO
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	PIC24FJ48GA002T-I/SO
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	PIC24FJ64GA102T-I/SO
	PIC24FJ64GB002-I/SO
	PIC24FJ64GB002T-I/SO
	PIC24HJ12GP202-E/SO
	PIC24HJ12GP202-I/SO
	PIC24HJ12GP202T-E/SO

PIC24HJ12GP202T-I/SO
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PIC24HJ32GP202-H/SO
PIC24HJ32GP202-I/SO
PIC24HJ32GP202T-E/SO
PIC24HJ32GP202T-H/SO
PIC24HJ32GP202T-I/SO
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