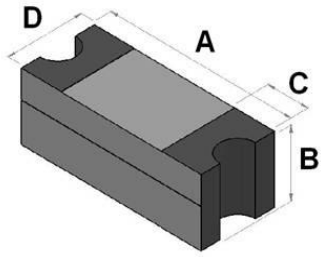
Littelfuse
Expertise Applied | Answers Delivered

Surface Mount Fuse
Very Fast Acting

PRODUCT: 2410SFV Family (Marked)

Specification Status: Released

Termination Material: Copper, Ni, Tin
Fuse Element: Copper/Copper alloy
Body Material: Fiberglass/Epoxy
Operating Temperature：
-55°C to +125°C (with de-rating)



Clear Time Characteristics

% of current rating	Clear time at 25°C	
	Min.	Max.
100%	4 hours	
200% (0.5A-10.0A)	0.01 sec	5 sec
200% (12.0A-20.0A)	0.01 sec	20 sec

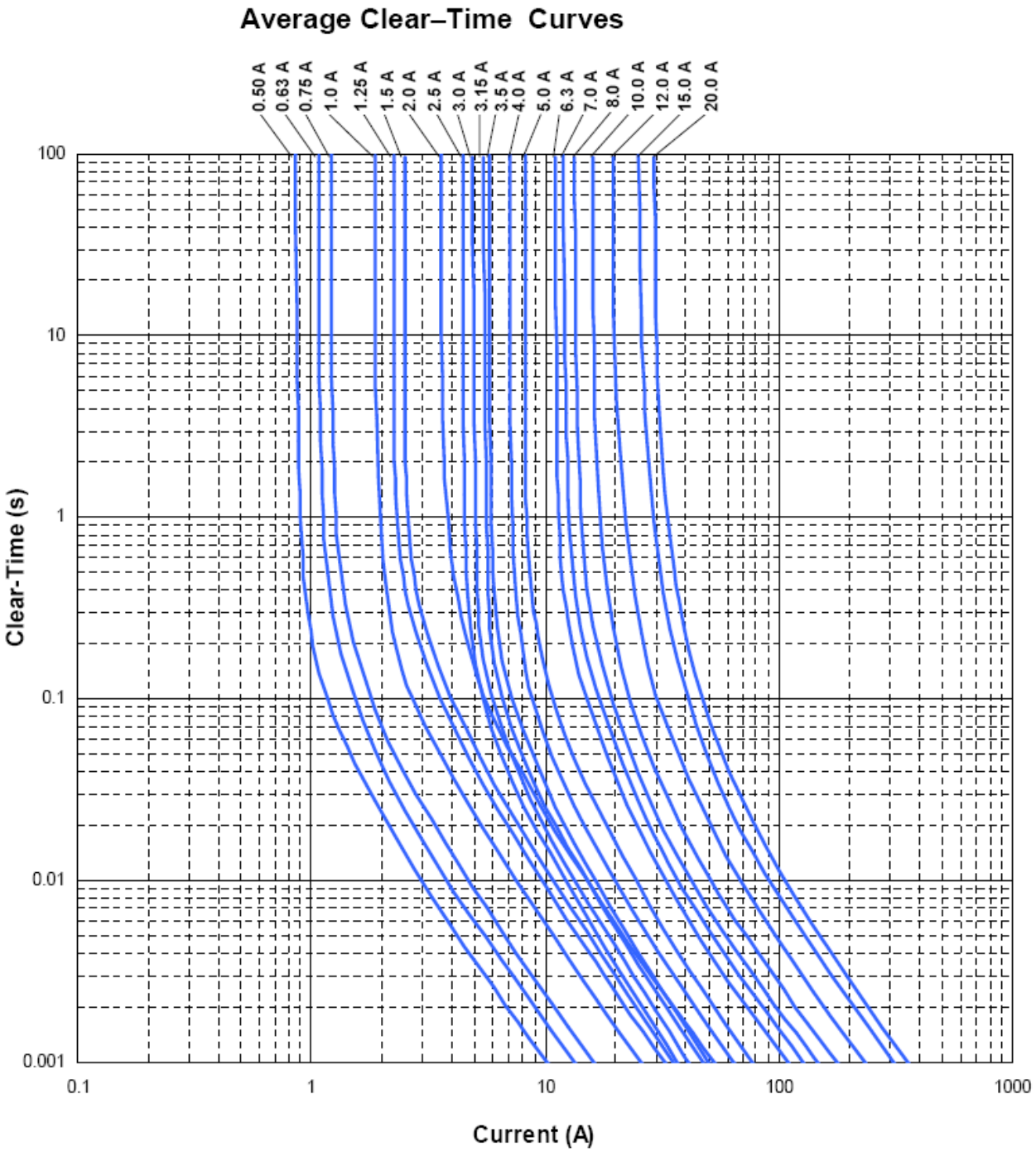
Dimensions

	A		B		C		D	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
mm	5.95	6.25	1.96	2.36	0.97	1.73	2.34	2.64
in	(0.234)	(0.246)	(0.077)	(0.093)	(0.038)	(0.068)	(0.092)	(0.104)

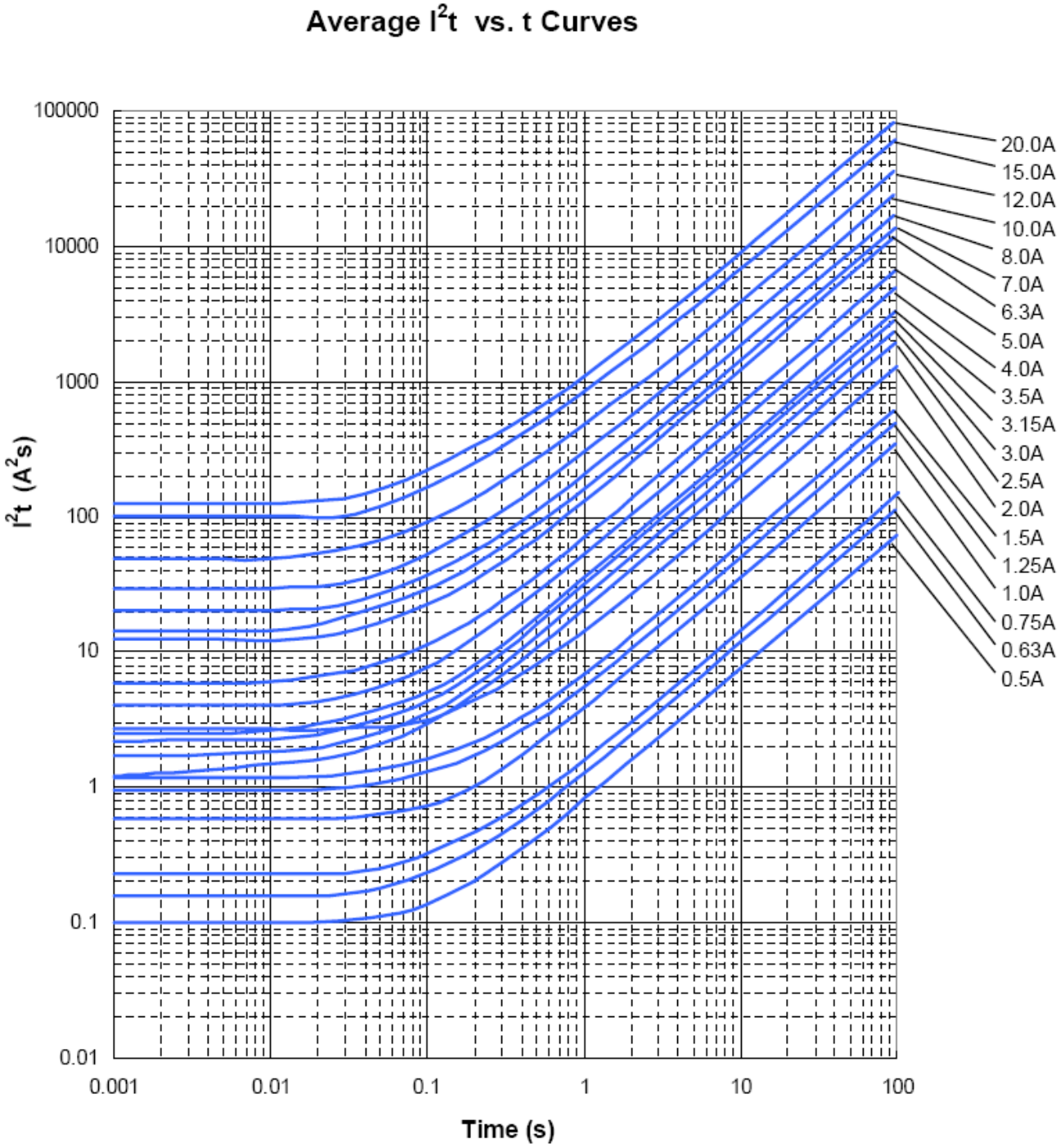
Part Number	Marking Code	Rated Current (A)	Interrupt Rating	Voltage Rating (V)		Nominal Cold DC Resistance (DCR) (Ω)*	Nominal I^2t $(A^2s)^2$
				AC	DC		
2410SFV0.50FM/125	C	0.50	**UL:** **0.5~2A** 100A @250V_{AC} **2.5~8A** 50A @ 125V_{AC} **0.5~8A** 50A @ 125V_{DC} 300A @ 32V_{DC} **TUV:** **0.5A、0.63A、1A、1.25A、2A** 100A @250V_{AC} 50A @125V_{DC} **CQC:** **0.5A、1A、2A** 100A @250V_{AC} 50A @125V_{DC}	250	125	0.2310	0.1
2410SFV0.63FM/125	S	0.63		250	125	0.1740	0.16
2410SFV0.75FM/125	D	0.75		250	125	0.1480	0.23
2410SFV1.00FM/125	E	1.00		250	125	0.0930	0.59
2410SFV1.25FM/125	F	1.25		250	125	0.0700	0.96
2410SFV1.50FM/125	G	1.50		250	125	0.0620	1.19
2410SFV2.00FM/125	I	2.00		250	125	0.0420	2.75
2410SFV2.50FM/125	J	2.50		125	125	0.0310	1.21
2410SFV3.00FM/125	K	3.00		125	125	0.0249	1.73
2410SFV3.15FM/125	V	3.15		125	125	0.0232	2.2
2410SFV3.50FM/125	L	3.50		125	125	0.0220	2.5
2410SFV4.00FM/125	M	4.00		125	125	0.0172	4.1
2410SFV5.00FM/125	N	5.00		125	125	0.0143	5.9
2410SFV6.30FM/125	O	6.30		125	125	0.0100	12.5
2410SFV7.00FM/125	P	7.00		125	125	0.0094	14.2
2410SFV8.00FM/125	R	8.00		125	125	0.0086	20.3
2410SFV10.0FM/125	Q	10.00	**UL:** 35A@125V_{AC} 50A @ 125V_{DC} 300A @ 32V_{DC}	125	125	0.0066	29.2
2410SFV12.0FM/065	X	12.00	**UL:** 50A @ 65V_{AC} 50A @ 65V_{DC} 300A @ 32V_{DC}	65	65	0.0053	49.2
2410SFV15.0FM/065	Y	15.00		65	65	0.0038	102.5
2410SFV20.0FM/065	Z	20.00	**UL:** 50A @ 65V_{AC} 100A @ 65V_{DC} 300A @ 32V_{DC}	65	65	0.0034	126.2

* Measured at ≤10% of rated current and 25°C ambient

Average Clear-Time Curves for 2410 Devices



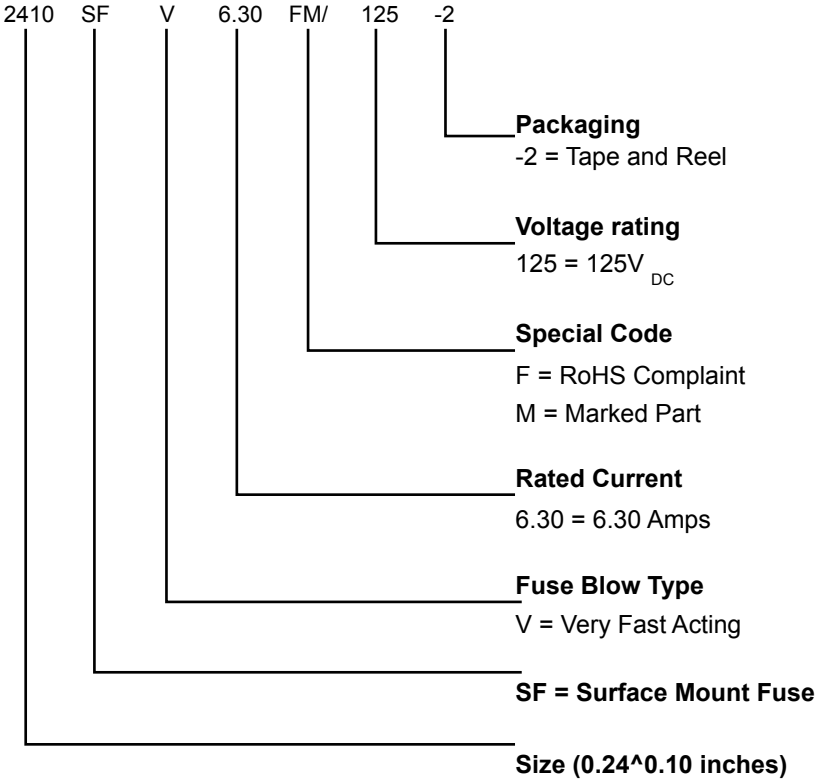
I^2t Curves for 2410 Devices



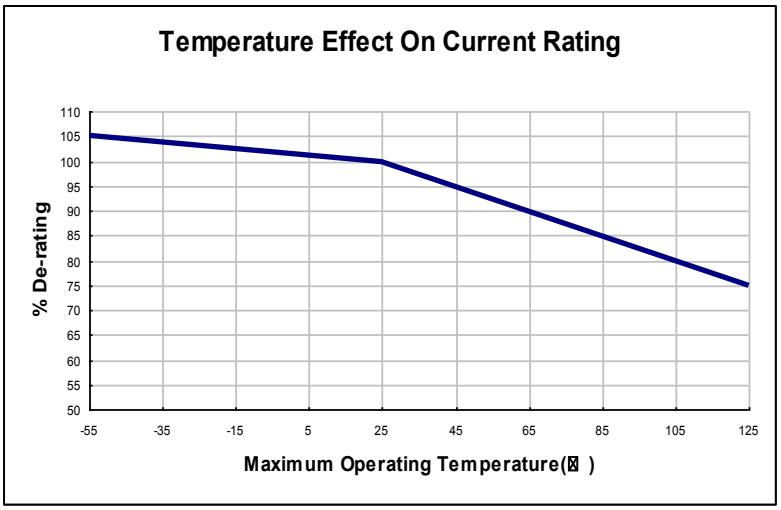
Product Characteristics for 2410 Devices

Reliability Test	Test Condition and Requirement
Reflow & Bend	3 reflows at 245°C followed by a 2 mm bend, 20% DCR change max. (10% for ≤1A), no mechanical damage
Solderability	245°C, 5 seconds, new solder coverage 90% minimum
Soldering Heat Resistance	260°C (according to MIL-STD-202, Method 210, Test condition B)
Life	25°C, 2000 hours, 80% rated current (75% for <1A), voltage drop change ≤±20%
Thermal Shock	-65°C to +125°C, 100 cycles, 10% DCR change max., no mechanical damage
Mechanical Vibration	5 – 3000 Hz, 0.4 inch double amplitude or 30 G peak, 10% DCR change max., no mechanical damage
Mechanical Shock	1500 G, 0.5 milliseconds, half-sine shocks, 10% DCR change max., no mechanical damage
Salt Spray	5% salt solution, 48 hour exposure, 10% DCR change max., no excessive corrosion
Moisture Resistance	10 cycles, 15% DCR change max., no excessive corrosion

Part Naming for 2410 Devices

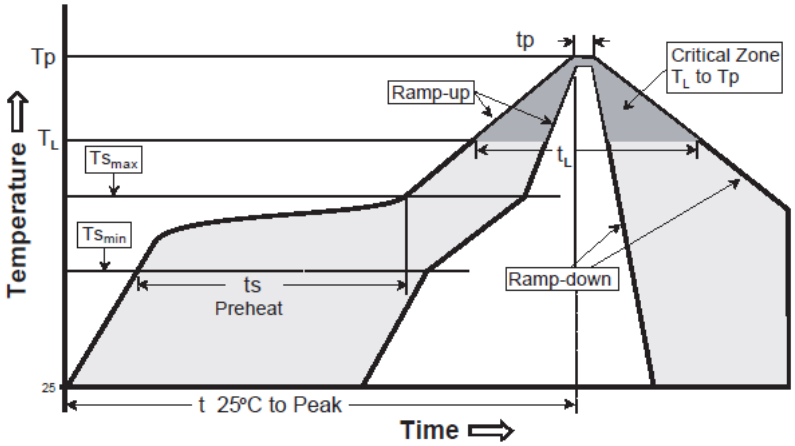


Temperature De-rating Curve for 2410 Devices



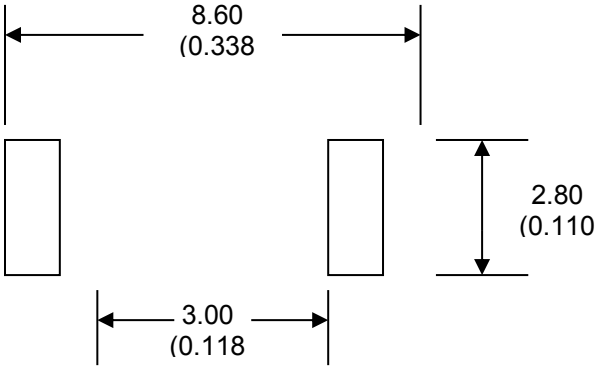
Solder Reflow Recommendation for 2410 Devices

Profile Feature	
Average ramp up rate (Ts_{MAX} toTp)	3°C/second max.
Preheat • Temperature min. (Ts_{MIX}) • Temperature max. (Ts_{MAX}) • Time (ts_{MIN} to ts_{MAX}) 60-180 seconds	 150°C 200°C 40 – 100 Seconds
Time maintained above: • Temperature (T_L) • Time (t_L)	 200°C 30 Seconds Min.
Peak/Classification temperature (Tp)	250°C Max.
Time within 5°C of actual peak temperature Time (tp)	 30 – 40 Seconds
From 25°C to preheating (150°C)	40 – 100 seconds
Ramp down rate	Natural Cooling

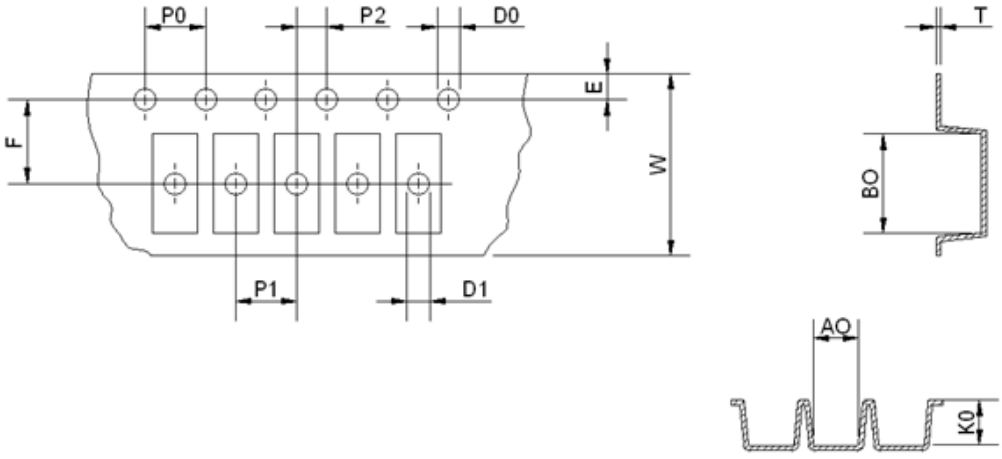


Recommended Pad Layout for 2410 Devices

mm (inch)



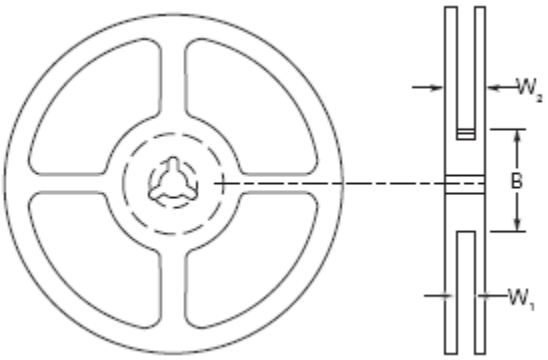
Package Information for 2410 Devices



Surface Mount Fuse
Very Fast Acting

PRODUCT: 2410SFV Family (Marked)

	E	F	W	P1	P0	P2
mm (in)	1.75±0.10 (0.069±0.004)	5.50±0.10 (0.217±0.004)	12.00±0.10 (0.472±0.004)	4.00±0.10 (0.157±0.004)	4.00±0.10 (0.157±0.004)	2.00±0.05 (0.079±0.002)
	D0	D1	T	A0	B0	K0
mm (in)	1.50+0.10/-0.00 (0.059+0.004/-0.000)	1.55±0.10 (0.61±0.004)	0.25±0.05 (0.010±0.002)	2.85±0.10 (0.112±0.004)	6.40±0.10 (0.252±0.004)	2.35±0.10 (0.093±0.004)



	B	W_1	W_2
mm (in)	60.2 (2.37)	13.40 (0.528)	16 (0.63)

Agency Recognition: UL E197536, CQC 12012078873, TUV 50269651
Precedence: This specification takes precedence over documents referenced herein.
Effectivity: Reference documents shall be the issue in effect on the date of invitation for bid.

Materials Information

ROHS Compliant
Directive 2002/95/EC Compliant

ELV Compliant
Directive 2000/53/EC Compliant

Pb-Free

Halogen Free*
HF

* Halogen Free refers to: Br≤900ppm, Cl≤900ppm, Br+Cl≤1500ppm