

$I_{T(RMS)}$ $T_c=80^\circ\text{C}$ 360° Conduction (Amps)	I_{TSM} (Amps)		I^2t for Fusing @ 8.3 ms (A ² sec)	I_{DRM} @ V_{RRM} (mA)	V_{DRM}/V_{RRM} Range (Volts)	V_{TM} $T_J=25^\circ\text{C}$		$R_{\theta JC}$ (°C/W)	Junction Temp. Range (°C)	Max V_{GT} (Volts)	Max V_{GD} All Modes (Volts)
	50 Hz	60 Hz				I_{TM} (Amps)	V_{TM} (Volts)				
10	104	110	50	.5	200-600	14	1.5	2.5	-40 to 100	3.5	.2
10	90	100	41.5	.5	200-600	14	1.65	2	-40 to 100	3.5	.2
10 $T_c=78^\circ\text{C}$	90	100	41.5	.5	200-600	14	1.65	2.15	-40 to 100	3.5	.2
10 $T_c=78^\circ\text{C}$	90	100	41.5	.5	200-600	14	1.65	2.15	-40 to 100	3.5	.2
10 $T_c=76^\circ\text{C}$	90	100	41.5	.5	200-600	14	1.65	2.30	-40 to 100	3.5	.2
10 $T_c=78^\circ\text{C}$	90	100	41.5	.5	200-600	14	1.65	2.15	-40 to 100	3.5	.2
10	90	100	41.5	.5	200-600	14	1.65	2	-40 to 100	3.5	.2
12 $T_c=98^\circ\text{C}$	109	120	60	2	200-600	20	1.6	1.8	-40 to 125	1.5 x	.2
12 $T_c=84^\circ\text{C}$	109	120	60	2	200-600	20	1.6	2.7	-40 to 125	1.5 x	.2
12	110	120	60	.5	200-600	17	1.48	2.05	-40 to 100	3.5	.2
12 $T_c=75^\circ\text{C}$	110	120	60	.5	200-600	17	1.65	2	-40 to 100	3.5	.2
15	110	120	60	.5	200-600	21	1.52	1.95	-40 to 100	3.5	.2
15	110	120	60	.5	200-600	21	1.52	2	-40 to 100	3.5	.2
15 $T_c=86^\circ\text{C}$	90	100	41.5	.5	200-600	21	1.65	2	-40 to 100	3.5	.2
15 $T_c=83^\circ\text{C}$	90	100	41.5	.5	200-600	21	1.65	2.15	-40 to 100	3.5	.2
15 $T_c=83^\circ\text{C}$	90	100	41.5	.5	200-600	21	1.65	2.15	-40 to 100	3.5	.2
15	90	100	41.5	.5	200-600	21	1.65	2.3	-40 to 100	3.5	.2
15 $T_c=83^\circ\text{C}$	90	100	41.5	.5	200-600	21	1.65	2.15	-40 to 100	3.5	.2
15 $T_c=86^\circ\text{C}$	90	100	41.5	.5	200-600	21	1.65	2	-40 to 100	3.5	.2
16 $T_c=100^\circ\text{C}$	155	170	121	2	200-600	25	1.5	1.4	-40 to 125	1.5 x	.2
16 $T_c=79^\circ\text{C}$	155	170	121	2	200-600	25	1.5	2.5	-40 to 125	1.5 x	.2

* = Isolated Tab
 ° = Tentative Specifications
 x = 25°C Value

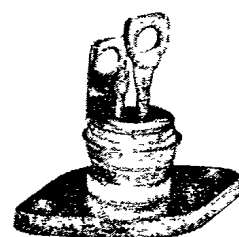
Critical Rate of Rise of Off-State Voltage (Min)		Holding and Latching Current (Max)		Gate Current Igr Max (mA)		PACKAGE INFORMATION		
dV/dt (V/ μ sec)	$dV/dt(c)$ (V/ μ sec)	$T_{J(Min)}$ to $T_{J(Max)}$ DC Holding Current (mA)	$T_{J(Min)}$ to $T_{J(Max)}$ DC Latching Current (mA)	@ $T_{J(Min)}$	@ $T_{J=25^{\circ}C}$	STYLE	Outline	TYPE NO.
100	4	50-100	100-400	80	50	Power Pak Isolated Tab	TO-220AB	SC147*
100	4	50-100	100-400	80	50	Non-Isolated Stud	—	SC245
100	4	50-100	100-400	80	50	Isolated Stud With Press on MT2 Terminal	—	SC245-2
100	4	50-100	100-400	80	50	Isolated Stud With Solder Ring MT2 Terminal	—	SC245-3
100	4	50-100	100-400	80	50	Isolated TO-3 Flange	—	SC245-4
100	4	50-100	100-400	80	50	Non-Isolated TO-3 Flange	—	SC245-5
100	4	50-100	100-400	80	50	Press Fit	—	SC246
—	6-10	38-200 Typical	—	180 Typical	45 Typical	Flat Pak	TO-220	BCR12CM
—	6-10	38-200 Typical	—	180 Typical	45 Typical	Flat Pak	TO-220	BCR12DM
100	4	50-100	100-400	80	50	Power Pak Isolated Tab	TO-220AB	SC148*
100	4	50-100	100-400	80	50	Power Pak Non-Isolated Tab	TO-220AB	SC149
100	4	50-100	100-400	80	50	Power Pak Isolated Tab	TO-220AB	SC150*
100	4	50-100	100-400	80	50	Power Pak Non-Isolated Tab	TO-220AB	SC151
100	4	50-100	100-400	80	50	Non-Isolated Stud	—	SC250
100	4	50-100	100-400	80	50	Isolated Stud With Press on MT2 Terminal	—	SC250-2
100	4	50-100	100-400	80	50	Isolated Stud With Solder Ring MT2 Terminal	—	SC250-3
100	4	50-100	100-400	80	50	Isolated TO-3 Flange	—	SC250-4
100	4	50-100	100-400	80	50	Non-Isolated TO-3 Flange	—	SC250-5
100	4	50-100	100-400	80	50	Press Fit	—	SC251
—	6-10	38-200 Typical	—	80	50	Flat Pak	TO-220	*BCR16CM
—	6-10	38-200 Typical	—	80 Typical	50 Typical	Flat Pak	TO-220	*BCR16DM



Isolated stud with press-on anode (MTZ) terminal

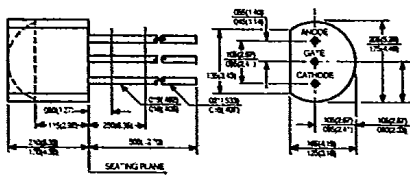


Isolated stud with solder ring anode (MTZ) terminal

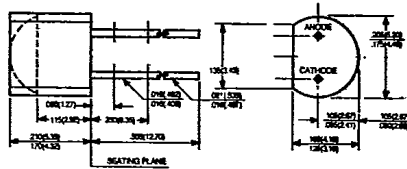


Isolated JEDEC TO-3 flange

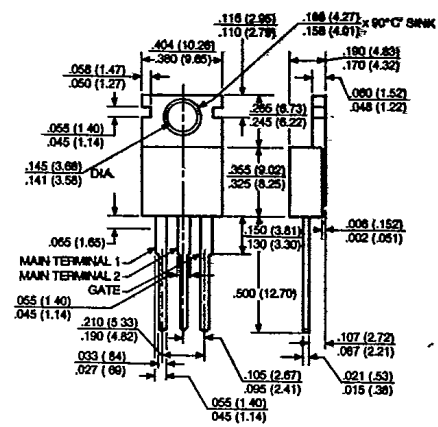
JEDEC TO-92



JEDEC Modified TO-92

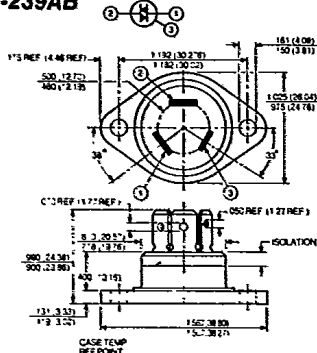


JEDEC TO-220AB

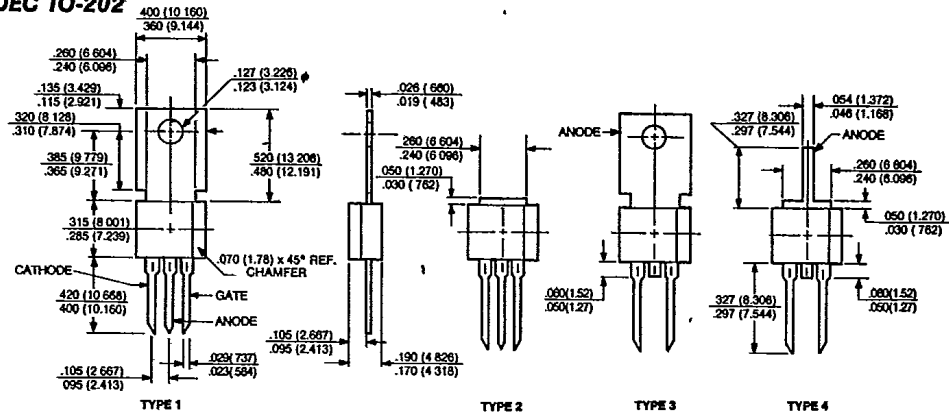


Note: TO-220 standoff distance is less.

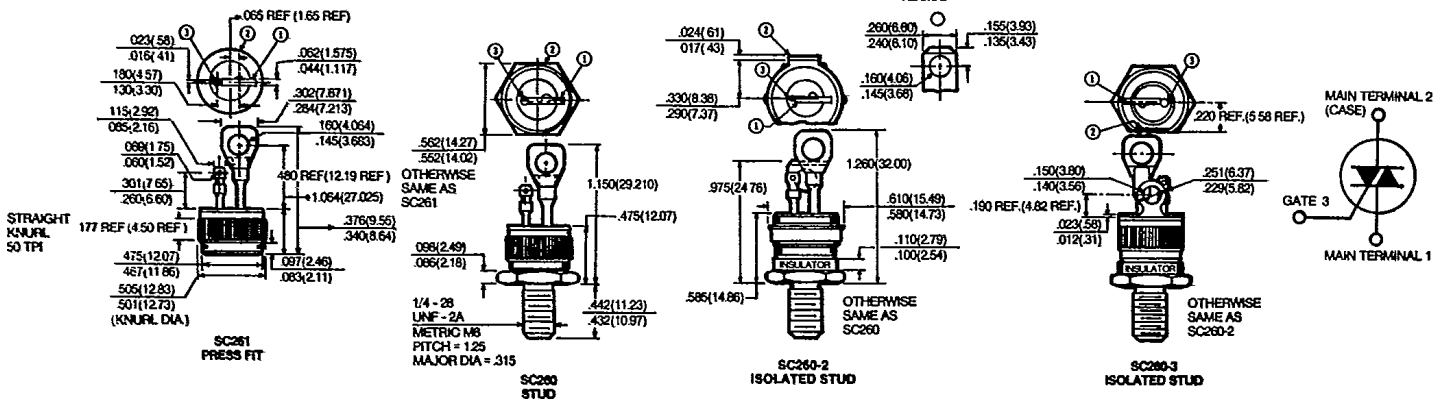
JEDEC TO-239AB



JEDEC TO-202



Special Triac Packages



(Consult factory for flange versions.)

TRIACS

Glass Axial Leaded — Consult Factory

Isolated Plastic with Fast-Ons — Consult Factory

Metric Stud — Consult Factory

M8 × 1.25

M12 × 1.5

M20 × 1.5

M24 × 1.5

Press Pak — Consult Factory

14.5mm × 43mm

14.5mm × 50 mm

Surface Mount — Consult Factory

MP-3

SOT-89

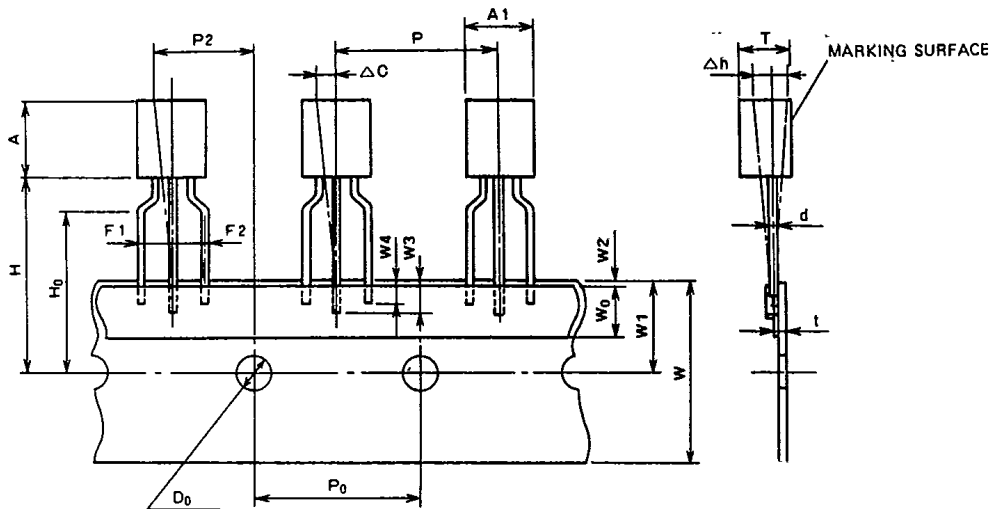
Powerex, Inc., Hillis Street, Youngwood, Pennsylvania 15697 (412) 925-7272
 Powerex Europe, S.A., 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

Taping

STANDARD SPECIFICATIONS FOR TAPING OF MOLDED PACKAGE THYRISTORS AND TRIACS

TO-92 Package

Thyristor
 CR02AM, CR03AM, CR04AM
 Triac
 BCR1AM

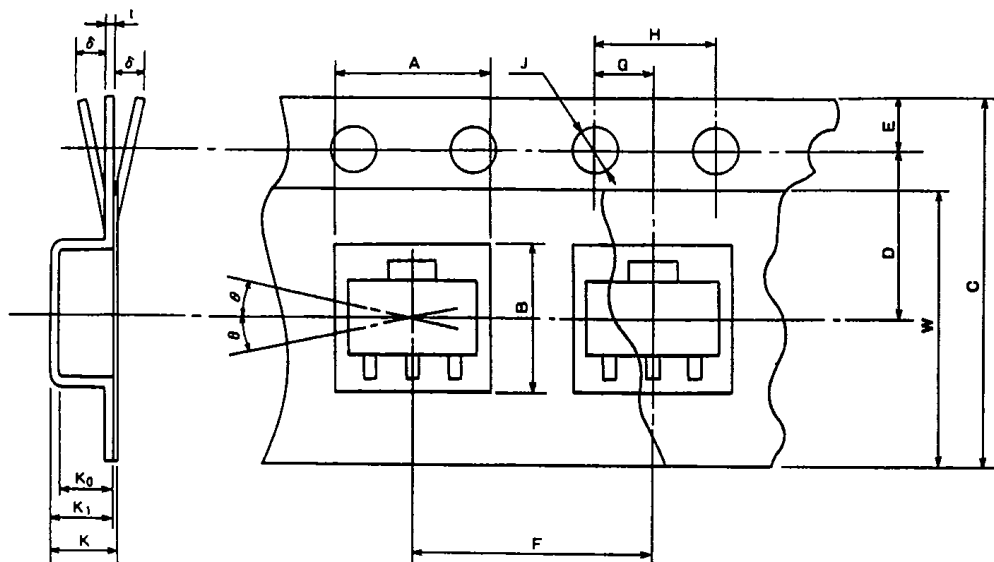


Taping dimensions

Description of symbol	Symbol	Dimensions (Unit:mm)	Remark
Product width	A1	5.0 MAX	
Product height	A	5.0 MAX	
Product thickness	T	3.7 MAX	
Lead wire diameter	d	0.6 MAX	
Sticker lead wire length (1)	W3	2.5 MIN	
Sticker lead wire length (2)	W4	2.0 MIN	
Pitch between products	P	12.7 ± 1.0	
Feed hole pitch	P ₀	12.7 ± 0.3	The cumulative pitch error is ± 1mm per 20 pitches.
Feed hole deviation (1)	P2	6.35 ± 1.3	
Distance between lead wires	F1, F2	2.5 ± 0.4	
Defective product (1)	Δh	0 ± 2.0	
Tape width	W	18.0 ± $\begin{smallmatrix} 1.0 \\ 0.5 \end{smallmatrix}$	
Sticker tape width	W ₀	6.0 ± 0.5	
Feed hole deviation (2)	W1	9.0 ± 0.5	
Sticker tape deviation	W2	0.5 MAX	
Position of product bottom surface	H	17.5 MIN	
Lynch height of lead wire	H ₀	16.0 ± 0.5	
Feed hole diameter	D ₀	4.0 ± 0.2	
Tape thickness	t	0.7 ± 0.2	
Defective product (2)	ΔC	0 ± 1.0	

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Powerex Semiconductor Data Book
Taping



SOT-89 Package

Thyristor
 CR08AS

Taping dimensions

Description of symbol		Symbol	Dimensions/angles Unit:mm	Remark
Parts insertion	Height	A	5.0 ± 0.1	Cross-section of the surface 0.5mm above the inner bottom
	Width	B	4.6 ± 0.1	Cross-section of the surface 0.5mm above the inner bottom
Concave square hole	Depth	K ₀	1.8 ± 0.1	Inner space
	Pitch	F	8.0 ± 0.1	Cumulative error +0.1/-0.3 MAX/10 pitches
Round feed hole	Diameter	J	$\phi 1.5 \pm 0.05$	
	Pitch	H	4.0 ± 0.1	Cumulative error +0.1/-0.3 MAX/10 pitches
	Position	E	1.5 ± 0.1	Distance between the tape edge and the hole center
Distance between center lines	Vertical	G	2.0 ± 0.5	Center line of concave square hole and round feed hole
	Horizontal	D	5.65 ± 0.05	Center line of concave square hole and round feed hole
Cover tape	Width	W	$9.5 + 0.3/-0$	Thickness: 0.1 MAX
Carrier tape	Width	C	12 ± 0.2	Warp $\delta 0.3$ MAX
	Thickness	t	0.3 ± 0.05	
	Package hole depth	K ₁	2.1 ± 0.1	
Device	Package dimensions	—	—	As shown in (e)
	Inclination	θ	30° MAX.	
Total Thickness		K	2.3 ± 0.1	Total thickness including cover and carrier tapes