

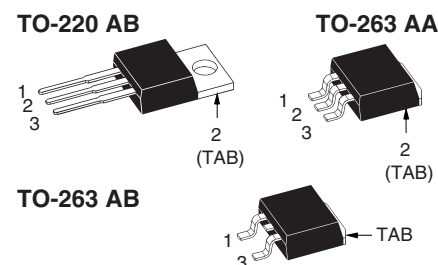
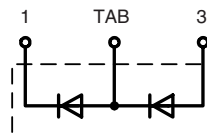
Phase-leg Rectifier Diode

$$V_{RRM} = 800/1200 \text{ V}$$

$$I_{F(RMS)} = 2 \times 17 \text{ A}$$

$$I_{F(AV)M} = 2 \times 11 \text{ A}$$

V_{RSM} V	V_{RRM} V	TO-220 AB Type	TO-263 AA	TO-263AB
900	800	DSP 8-08A	DSP 8-08AS	DSP 8-08S
1300	1200	DSP 8-12A	DSP 8-12AS	DSP 8-12S



1 = Cathode, 2 = Anode/Cathode, 3 = Anode
TAB = Anode/Cathode

Symbol	Conditions	Maximum Ratings
I_{FRMS}	$T_{VJ} = T_{VJM}$	17 A
$I_{F(AV)M}$	$T_{case} = 100^{\circ}\text{C}; 180^{\circ}$ sine	11 A
I_{FSM}	$T_{VJ} = 45^{\circ}\text{C};$ t = 10 ms (50 Hz), sine t = 8.3 ms (60 Hz), sine	100 A 110 A
	$T_{VJ} = 150^{\circ}\text{C};$ t = 10 ms (50 Hz), sine t = 8.3 ms (60 Hz), sine	90 A 100 A
I^2t	$T_{VJ} = 45^{\circ}\text{C};$ t = 10 ms (50 Hz), sine t = 8.3 ms (60 Hz), sine	50 A ² s 50 A ² s
	$T_{VJ} = 150^{\circ}\text{C};$ t = 10 ms (50 Hz), sine t = 8.3 ms (60 Hz), sine	41 A ² s 42 A ² s
T_{VJ}		-40...+180 $^{\circ}\text{C}$
T_{VJM}		180 $^{\circ}\text{C}$
T_{stg}		-40...+150 $^{\circ}\text{C}$
$M_d^{1)}$	Mounting torque	0.4...0.6 Nm
Weight	TO-263/TO-220	2/4 g

Features

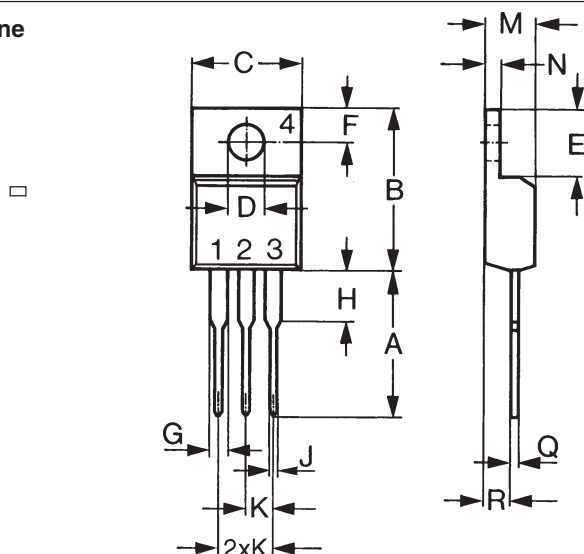
- International standard packages JEDEC TO-220 AB and TO-263 AA surface mountable
- For single and three phase bridge configuration
- Planar passivated chips
- Epoxy meets UL 94V-0 flammability classification

Symbol	Conditions	Characteristic Values
I_R	$T_{VJ} = 25^{\circ}\text{C}$ $V_R = V_{RRM}$	$\leq 5 \mu\text{A}$
V_F	$I_F = 7 \text{ A}; T_{VJ} = 25^{\circ}\text{C}$	$\leq 1.15 \text{ V}$
V_{T0}	For power-loss calculations only	0.8 V
r_T	$T_{VJ} = T_{VJM}$	40 m Ω
R_{thJC}	DC current	3.5 K/W
$R_{thCH}^{1)}$	DC current (with heatsink compound)	typ. 0.5 K/W
a	Maximum allowable acceleration	100 m/s ²

¹⁾ TO-220 only

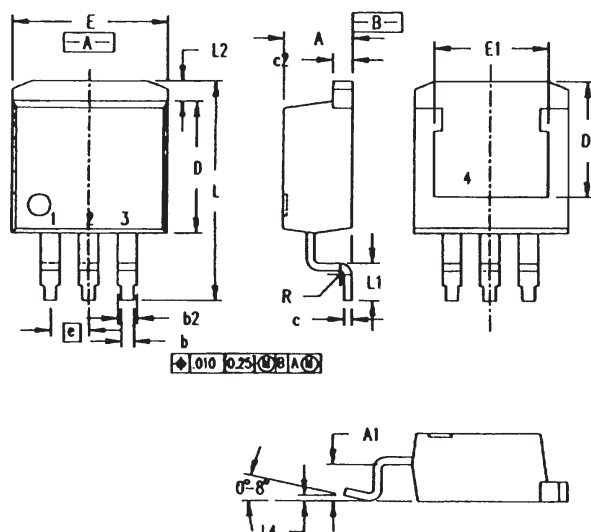
Data according to IEC 60747 and refer to a single diode unless otherwise stated.

TO-220 AB Outline



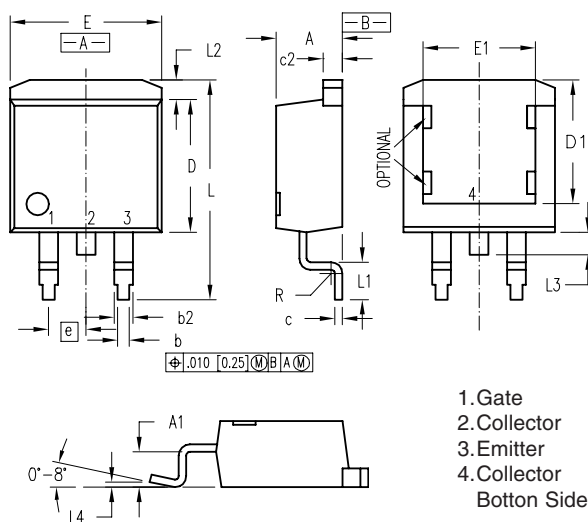
Dim.	Millimeter	Inches
	Min. Max.	Min. Max.
A	12.70 13.97	0.500 0.550
B	14.73 16.00	0.580 0.630
C	9.91 10.66	0.390 0.420
D	3.54 4.08	0.139 0.161
E	5.85 6.85	0.230 0.270
F	2.54 3.18	0.100 0.125
G	1.15 1.65	0.045 0.065
H	2.79 5.84	0.110 0.230
J	0.64 1.01	0.025 0.040
K	2.54 BSC	0.100 BSC
M	4.32 4.82	0.170 0.190
N	1.14 1.39	0.045 0.055
Q	0.38 0.56	0.015 0.022
R	2.29 2.79	0.090 0.110

TO-263 AA Outline



Dim.	Millimeter	Inches
	Min. Max.	Min. Max.
A	4.06 4.83	.160 .190
A1	2.03 2.79	.080 .110
b	0.51 0.99	.020 .039
b2	1.14 1.40	.045 .055
c	0.46 0.74	.018 .029
c2	1.14 1.40	.045 .055
D	8.64 9.65	.340 .380
D1	7.11 8.13	.280 .320
E	9.65 10.29	.380 .405
E1	6.86 8.13	.270 .320
e	2.54 BSC	.100 BSC
L	14.61 15.88	.575 .625
L1	2.29 2.79	.090 .110
L2	1.02 1.68	.040 .066
L4	0 0.38	0 .015
R	0.46 0.74	.018 .029

TO-263 AB Outline



Dim.	Millimeter	Inches
	Min. Max.	Min. Max.
A	4.06 4.83	.160 .190
A1	2.03 2.79	.080 .110
b	0.51 0.99	.020 .039
b2	1.14 1.40	.045 .055
c	0.46 0.74	.018 .029
c2	1.14 1.40	.045 .055
D	8.64 9.65	.340 .380
D1	8.00 8.89	.315 .350
E	9.65 10.29	.380 .405
E1	6.22 8.13	.245 .320
e	2.54 BSC	.100 BSC
L	14.61 15.88	.575 .625
L1	2.29 2.79	.090 .110
L2	1.02 1.68	.040 .066
L3	1.27 1.78	.050 .070
L4	0 0.20	0 .008
R	0.46 0.74	.018 .029

1. Gate
 2. Collector
 3. Emitter
 4. Collector
- Bottom Side

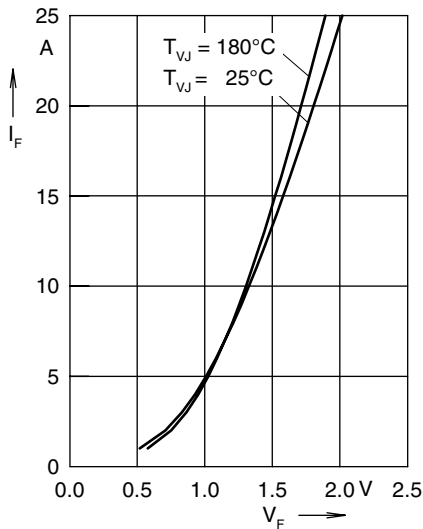


Fig. 1 Forward current versus voltage drop per diode

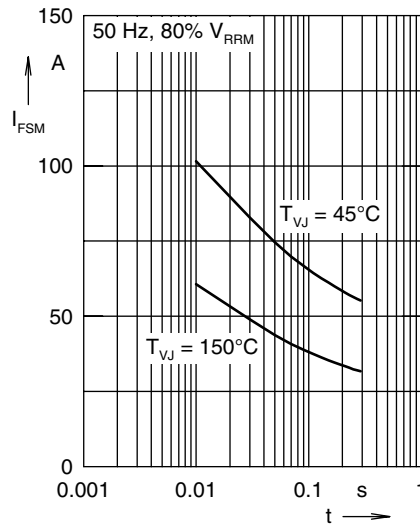


Fig. 2 Surge overload current

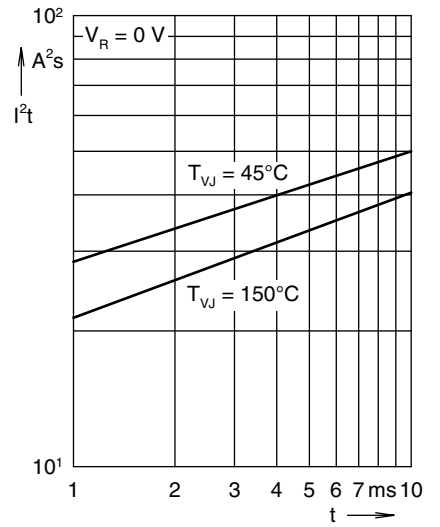


Fig. 3 I^2t versus time per diode

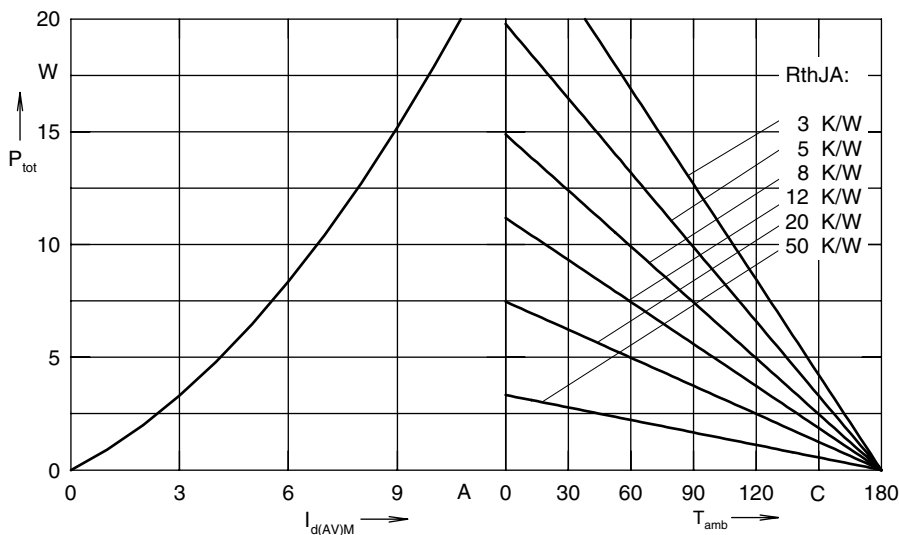


Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 180°

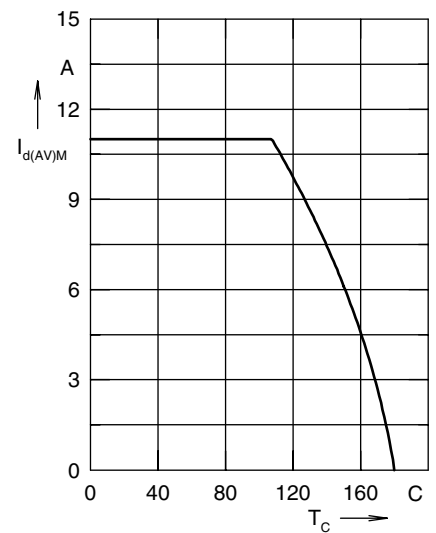


Fig. 5 Max. forward current versus case temperature

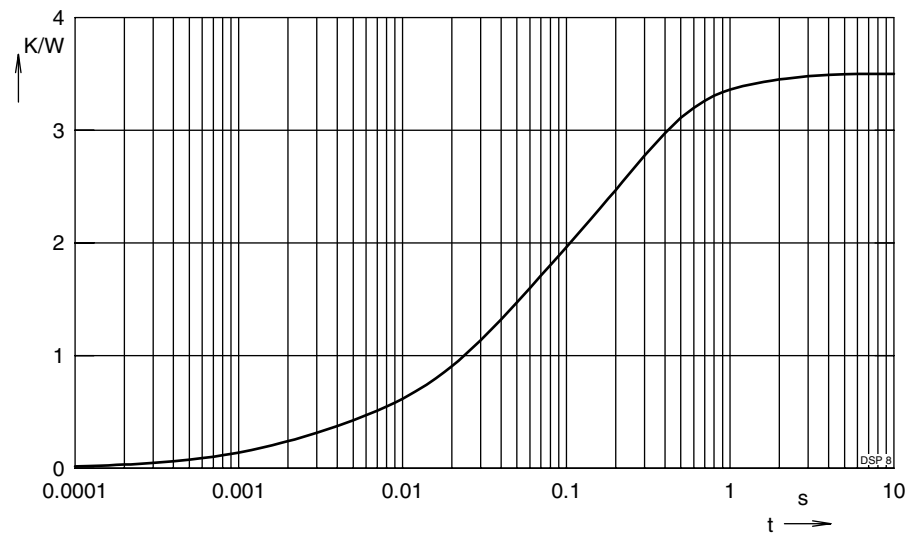


Fig. 6 Transient thermal impedance junction to case

Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.252	0.002
2	1.045	0.032
3	1.932	0.227
4	0.271	1.2