

Axial Lead Diode

Standard silicon rectifier diodes

Forward Current: 20 A

Reverse Voltage: 50 to 1000 V

P2000A ... P2000M

Features

- Max. solder temperature: 260°C
- Plastic material has UL classification 94V-0

Typical Applications*

All-purpose rectifier diode

Mechanical Data

- Plastic case: 8 x 7,5 [mm]
- Weight approx.: 2,4 g
- Terminals: plated terminals solderable per MIL-STD-750
- Mounting position: any
- Standard packaging: 500 pieces per ammo or 1000 pieces per reel

Footnotes

¹⁾ $I_F = -A$, $I_R = -A$, $I_{RR} = -A$

²⁾ $I_F = 5 A$, $T_j = 25^\circ C$

³⁾ $I_F = 20 A$, $T_j = 25^\circ C$

⁴⁾ Valid, if leads are kept at T_A at a distance of 0 mm from case

⁵⁾ Max. junction temperature $T_j \leq 185^\circ C$ in reverse mode $V_R = 50\% V_{RRM}$, $T_j \leq 200^\circ C$ in bypass mode / DC forward mode

⁶⁾ Thermal resistance from junction to lead/terminal at distance 0 mm from case

Type	Repetitive peak reverse voltage V_{RRM} V	Surge peak reverse voltage V_{RSM} V	Max. reverse recovery time $t_{rr}^{1)}$ ns	Max. forward voltage $V_F^{2)}$ V	Max. forward voltage $V_F^{3)}$ V
P2000A	50	50	-	0.85	0.94
P2000B	100	100	-	0.85	0.94
P2000D	200	200	-	0.85	0.94
P2000G	400	400	-	0.85	0.94
P2000J	600	600	-	0.87	1.0
P2000K	800	800	-	0.87	1.0
P2000M	1000	1000	-	0.87	1.0

Absolute Maximum Ratings

Symbol	Conditions	Values	Unit
$T_a = 25^\circ C$, unless otherwise specified			
I_{FAV}	R-load, ⁴⁾ $T_a = 50^\circ C$	20	A
I_{FRM}	$f > 15 Hz$, ⁴⁾	90	A
I_{FSM}	half sinus-wave $T_a = 25^\circ C$	$t_p = 10 ms$	A
		$t_p = 8.3 ms$	A
i^2t	$T_a = 25^\circ C$	$t_p = 10 ms$	A^2s
		$t_p = 8.3 ms$	A^2s
T_j		-50 ... +175	$^\circ C$
T_j	DC forward (bypass) mode ⁵⁾	-50 ... +200	$^\circ C$
T_{stg}		-50 ... +175	$^\circ C$

Characteristics

Symbol	Conditions	min.	typ.	max.	Unit
$T_a = 25^\circ C$, unless otherwise specified					
I_R	$T_j = 25^\circ C$, $V_R = V_{RRM}$		1	25	μA
I_R	$T_j = 100^\circ C$, $V_R = V_{RRM}$				mA
C_j	at 1 MHz and applied reverse voltage of 4 V		-		pF
E_{RSM}	$L = 60 mH$, $T_j = 25^\circ C$, inductive load switched off		-		mJ
$R_{th(j-a)}$	⁴⁾			-	K/W
$R_{th(j-L)}$	⁶⁾			1	K/W



Diode

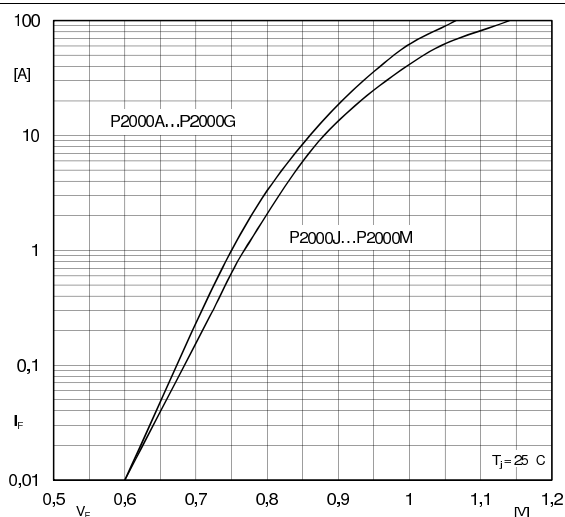


Fig.1: Forward characteristics (typical value)

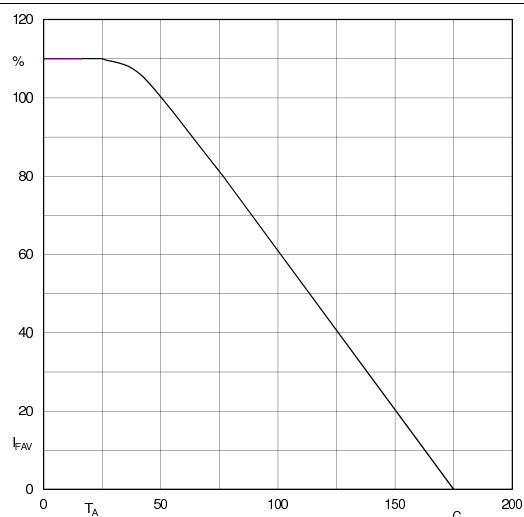


Fig.2: Rated forward current vs. ambient temperature ⁴⁾

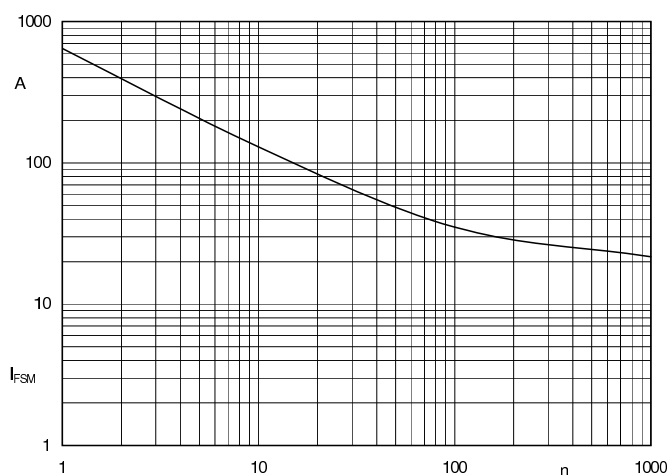


Fig.3: I_{FSM} current versus number of cycles as 50Hz

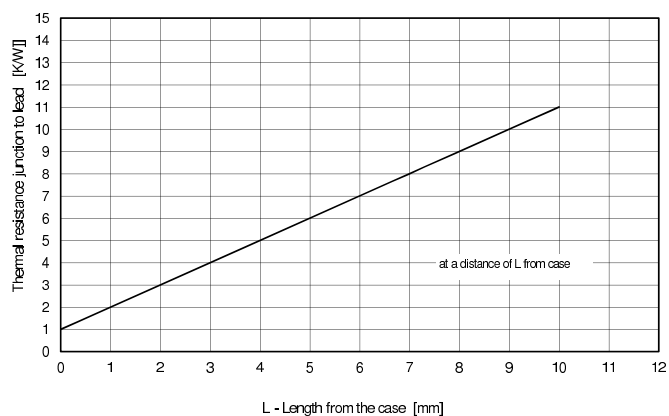
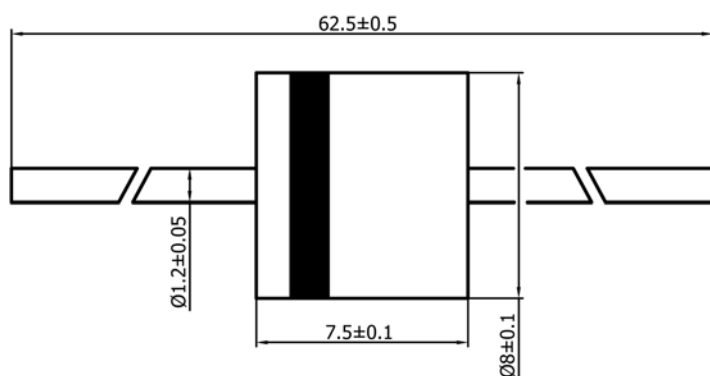


Fig.4: Thermal resistance versus distance from case



Case: 8 x 7,5 [mm]

P2000A ... P2000M

This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX

* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our staff.