

## Axial lead diode

## Standard silicon rectifier diodes

### P 1000 A....P 1000 S

**Forward Current: 10 A**

**Reverse Voltage: 50 to 1200 V**

### Features

- Max. solder temperature: 260°C
- Plastic material has UL classification 94V-0
- Max. junction temperature  $T_j \leq 200^\circ\text{C}$  in bypass mode

### Mechanical Data

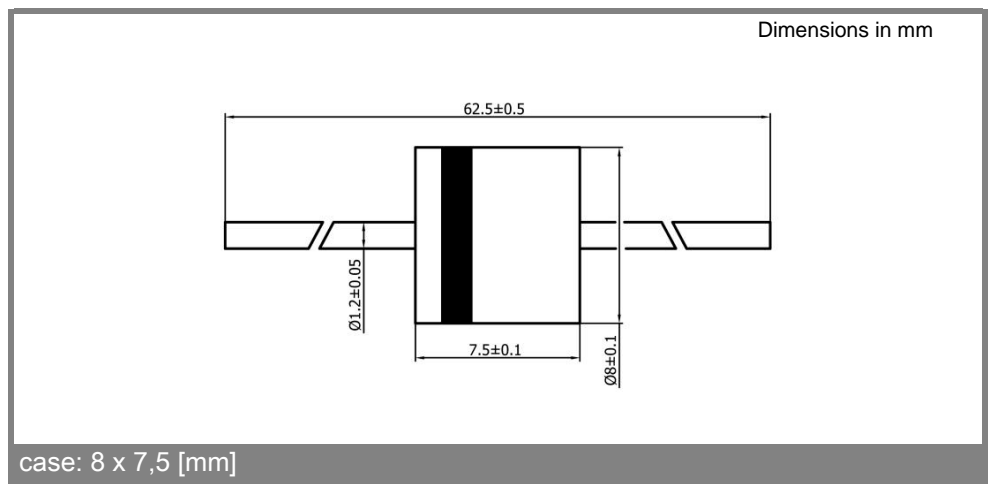
- Plastic case 8 x 7.5 [mm]
- Weight approx.: 1.5 g
- Terminals: plated terminals solderable per MIL-STD-750
- Mounting position: any
- Standard packaging: 500 pieces per ammo or 1000 pieces per reel

- 1) Valid, if leads are kept at  $T_A$  at a distance 10 mm from case
- 2)  $I_F = 5\text{A}$ ,  $T_j = 25^\circ\text{C}$
- 3)  $T_A = 25^\circ\text{C}$
- 4)  $R_{thT} \leq 3\text{ K/W}$  if leads are kept at ambient temperature at a distance 0 mm from case
- 5) Max. junction temperature  $T_j \leq 185^\circ\text{C}$  in reverse mode  $V_R = 50\%V_{RRM}$ ,  $T_j \leq 200^\circ\text{C}$  in bypass mode

Type	Repetitive peak reverse voltage $V_{RRM}$ V	Surge peak reverse voltage $V_{RSM}$ V	Max. reverse recovery time $I_F = -A$ $I_R = -A$ $I_{RR} = -A$ $t_{rr}$ ns	Max. forward voltage $V_F^{(2)}$
P 1000 A	50	50	-	0,9
P 1000 B	100	100	-	0,9
P 1000 D	200	200	-	0,9
P 1000 G	400	400	-	0,9
P 1000 J	600	600	-	0,9
P 1000 K	800	800	-	0,9
P 1000 M	1000	1000	-	0,9
P 1000 S	1200	1200	-	0,9

Absolute Maximum Ratings		$T_A = 25^\circ\text{C}$ , unless otherwise specified	
Symbol	Conditions	Values	Units
$I_{FAV}$	Max. averaged fwd. current, R-load, $T_A = 50^\circ\text{C}^{(1)}$	10	A
$I_{FRM}$	Repetitive peak forward current $f > 15\text{ Hz}^{(1)}$	80	A
$I_{FSM}$	Peak forward surge current 50 Hz half sinus-wave $^{(3)}$	400	A
$i^2t$	Rating for fusing, $t < 10\text{ ms}^{(3)}$	800	$\text{A}^2\text{s}$
$R_{thA}$	Max. thermal resistance junction to ambient $^{(1)}$		K/W
$R_{thL}$	Max. thermal resistance junction to terminals $^{(4)}$	3	K/W
$T_j$	Operating junction temperature	-50...+175 ( $T_j \leq 200^\circ\text{C}^{(5)}$ )	$^\circ\text{C}$
$T_s$	Storage temperature	-50...+175	$^\circ\text{C}$

Characteristics		$T_A = 25^\circ\text{C}$ , unless otherwise specified	
Symbol	Conditions	Values	Units
$I_R$	Maximum leakage current, $T_j = 25^\circ\text{C}$ ; $V_R = V_{RRM}$	<25	$\mu\text{A}$
	$T_j = ^\circ\text{C}$ ; $V_R = V_{RRM}$		
$C_j$	Typical junction capacitance (at MHz and applied reverse voltage of V)	-	pF
$Q_{rr}$	Reverse recovery charge ( $U_R = V$ ; $I_F = A$ ; $di_F/dt = A/\text{ms}$ )	-	$\mu\text{C}$
$E_{RSM}$	Non repetitive peak reverse avalanche energy ( $I_R = \text{mA}$ ; $T_j = ^\circ\text{C}$ ; inductive load switched off)	-	mJ



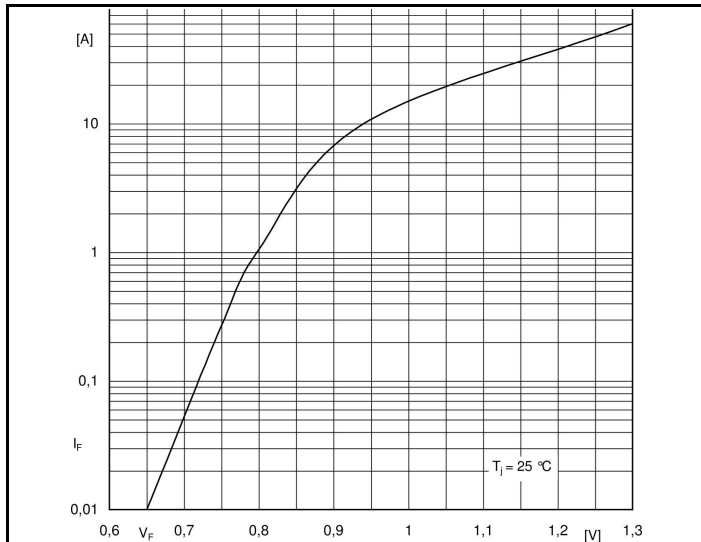


Fig. 1 Forward characteristic ( typical values )

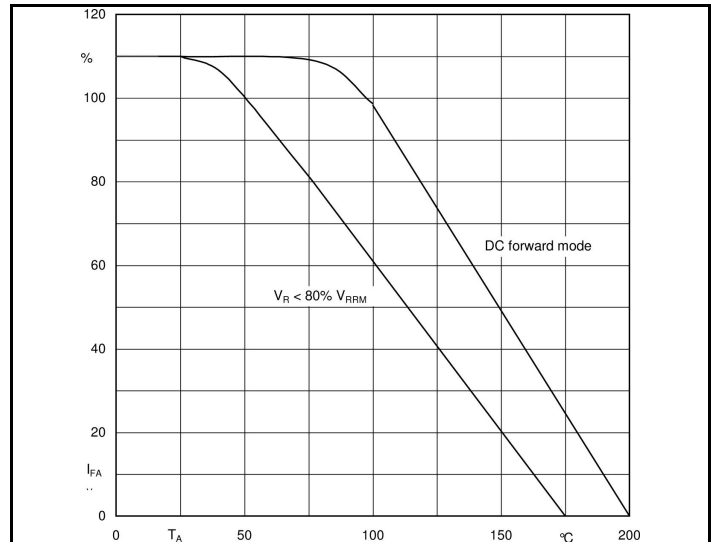


Fig. 2 Rated forward current vs. ambient temperature <sup>1)</sup>

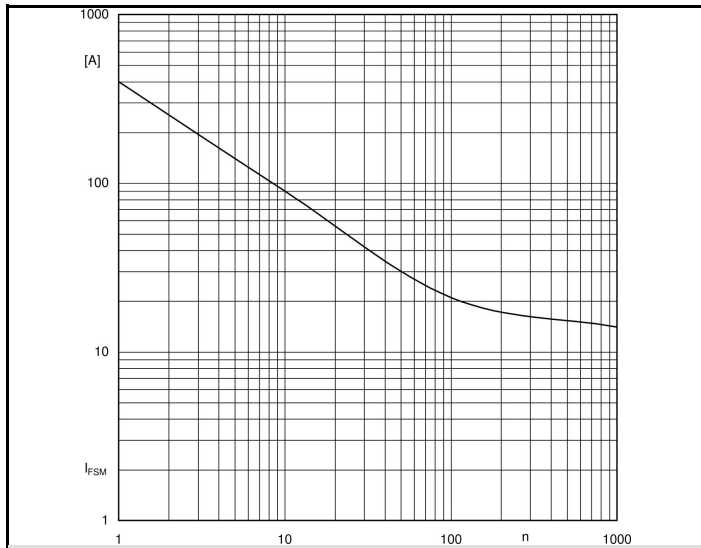


Fig. 3  $I_{FSM}$  current versus number of cycles at 50 Hz

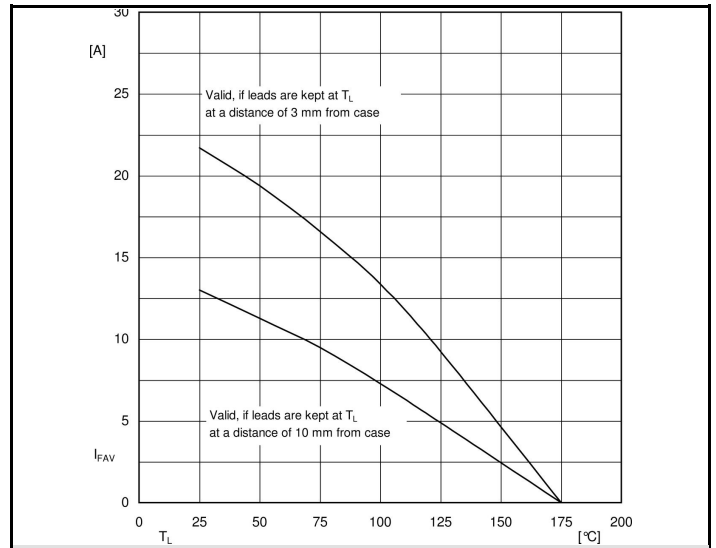


Fig. 4 Maximum Average Forward Current

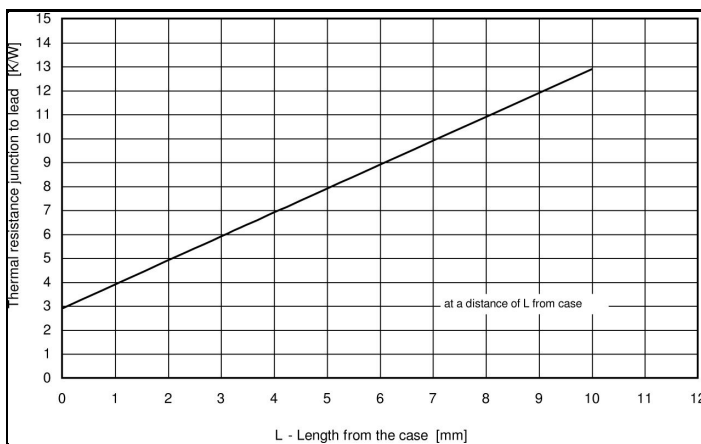


Fig. 5 Thermal resistance versus dimension from case