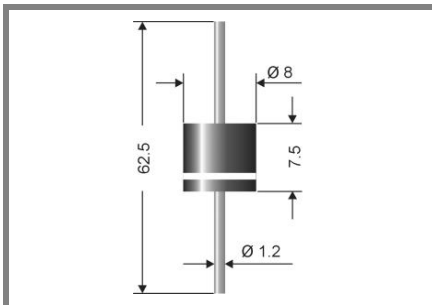


# HE20FA ... HE20FG



## Axial lead diode

Type	Repetitive peak reverse voltage	Surge peak reverse voltage	Max. reverse recovery time	Max. forward voltage
	$V_{RRM}$ V	$V_{RSM}$ V	$I_F = -A$ $I_R = -A$ $I_{RR} = -A$ $t_{rr}$ ns	$V_F^{(2)}$
HE20FA	50	50	200	0,82
HE20FB	100	100	200	0,82
HE20FD	200	200	200	0,82
HE20FG	400	400	200	0,84

## High efficiency fast silicon rectifier diode

### HE20FA ... HE20FG

**Forward Current: 20 A**

**Reverse Voltage: 50 to 400 V**

Preliminary Data

### Features

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

### 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

1) Valid, if leads are kept at ambient temperatur  $T_A = 50\text{ °C}$

2)  $I_F = 5\text{ A}$ ,  $T_j = 25\text{ °C}$

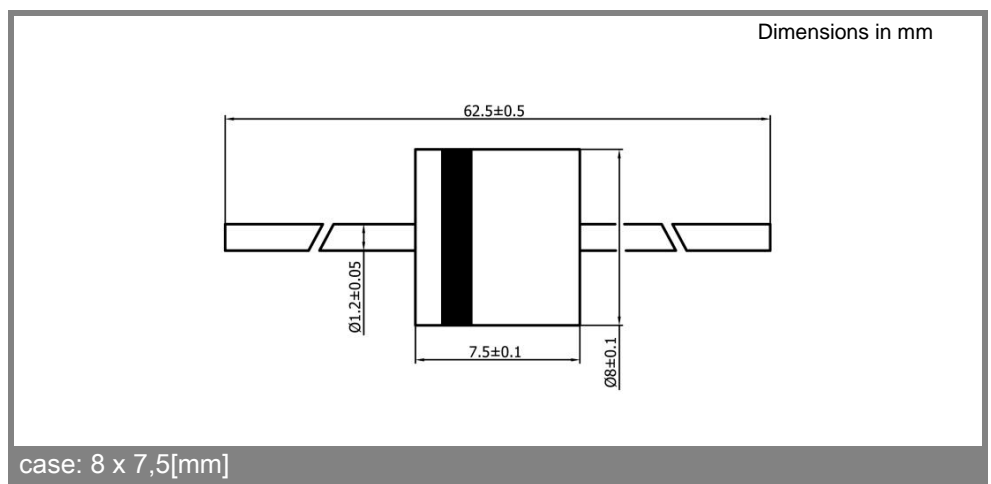
3)  $T_A = 25\text{ °C}$

4) thermal resistance from junction to lead/terminal at a distance 0 mm from case

5) Max. junction temperature  $T_j \leq 185\text{ °C}$  in reverse mode  $V_R = 50\%V_{RRM}$ ,  $T_j \leq 200\text{ °C}$  in bypass mode

Absolute Maximum Ratings		$T_A = 25\text{ °C}$ , unless otherwise specified	
Symbol	Conditions	Values	Units
$I_{FAV}$	Max. averaged fwd. current, R-load, $T_A = 50\text{ °C}$ <sup>1)</sup>	20	A
$I_{FRM}$	Repetitive peak forward current $f > 15\text{ Hz}$ <sup>1)</sup>	85	A
$I_{FSM}$	Peak forward surge current 50 Hz half sinus-wave <sup>3)</sup>	700	A
$i^2t$	Rating for fusing, $t < 10\text{ ms}$ <sup>3)</sup>	2450	A <sup>2</sup> s
$R_{thA}$	Max. thermal resistance junction to ambient <sup>1)</sup>		K/W
$R_{thL}$	Max. thermal resistance junction to terminals <sup>4)</sup>	1.5	K/W
$T_j$	Operating junction temperature	-50 ... +175 ( $T_j \leq 200\text{ °C}$ <sup>5)</sup> )	°C
$T_s$	Storage temperature	-50 ... +175	°C

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



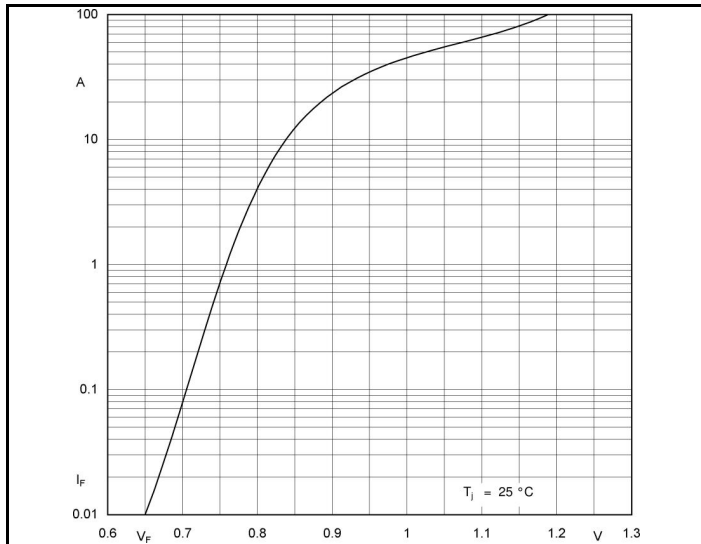


Fig. 1 Forward characteristics (typical values)

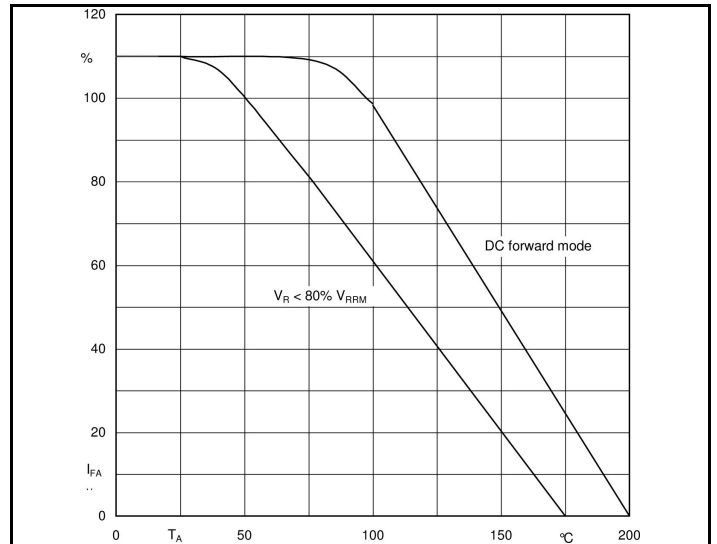


Fig. 2 Rated forward current vs. ambient temperature 1)

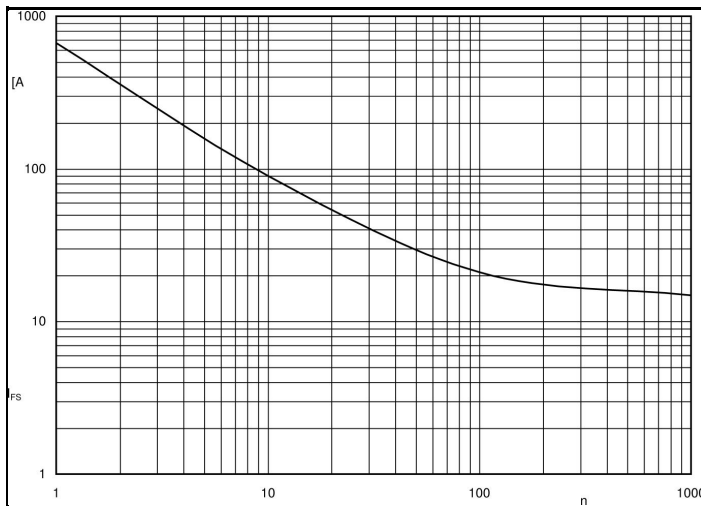


Fig. 3  $I_{FSM}$  current versus number of cycles at 50 Hz

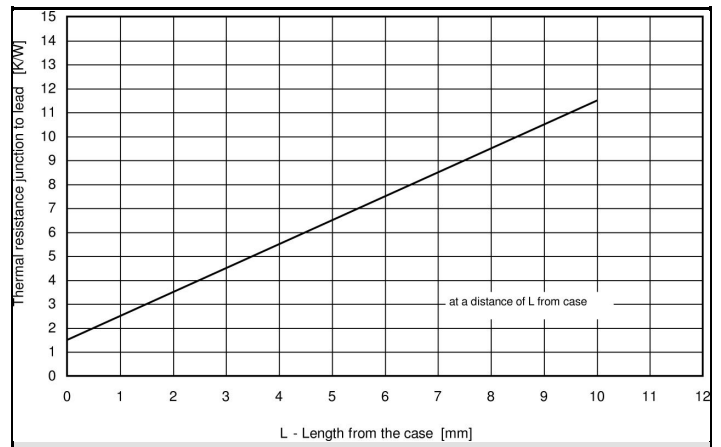


Fig. 4 Thermal resistance versus distance from case