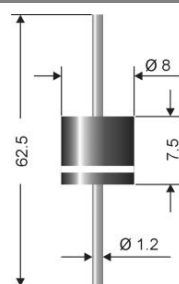


HE20FA ... HE20FG



Axial lead diode

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

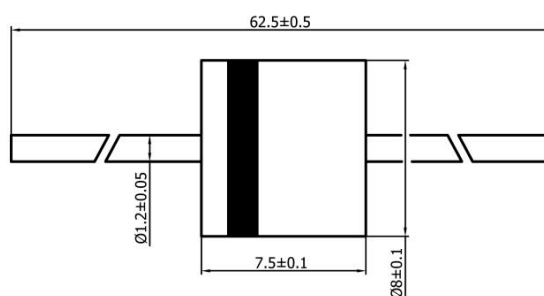
5) Max. junction temperature $T_j \leq 185\text{ °C}$ in reverse mode $V_R = 50\% V_{RRM}$, $T_j \leq 200\text{ °C}$ in bypass mode

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 $V_F^{2)}$
HE20FA	50	50	200	0,82
HE20FB	100	100	200	0,82
HE20FD	200	200	200	0,82
HE20FG	400	400	200	0,84

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

Dimensions in mm



case: 8 x 7,5[mm]

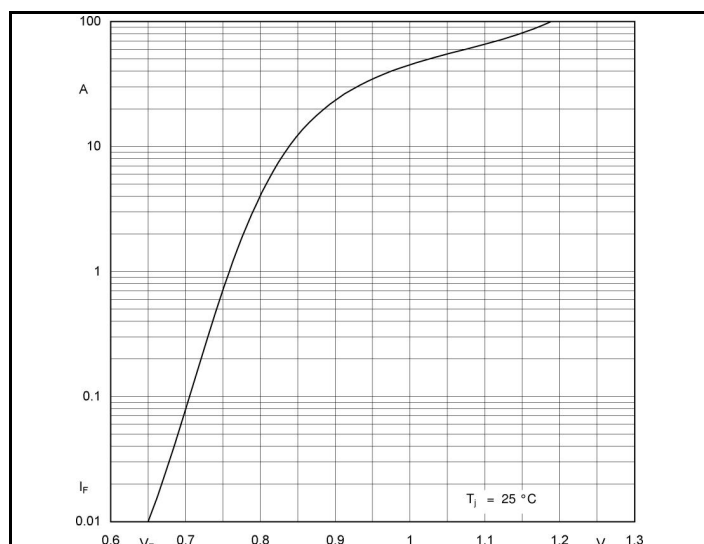


Fig. 1 Forward characteristics (typical values)

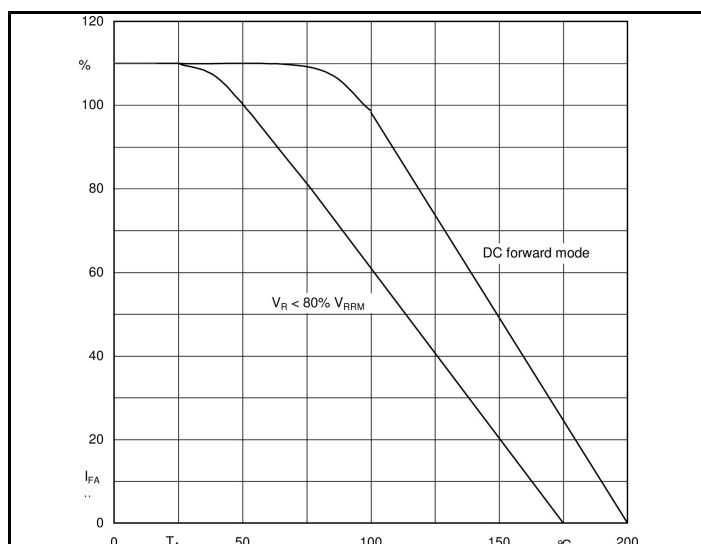


Fig. 2 Rated forward current vs. ambient temperature 1)

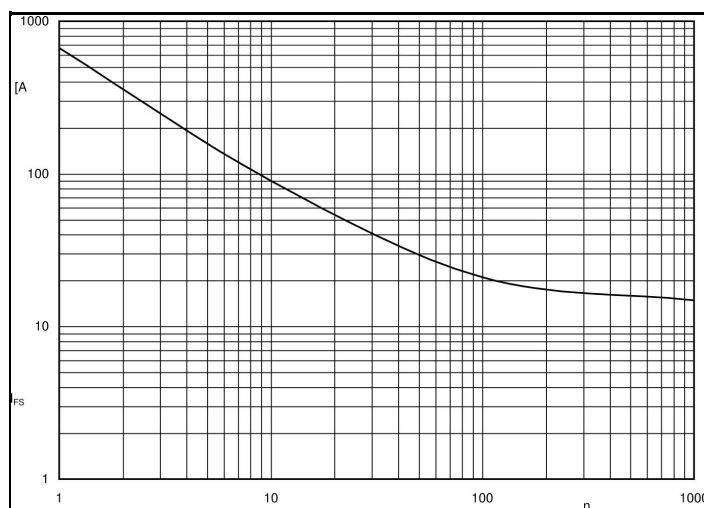


Fig. 3 I_{FSM} current versus number of cycles at 50 Hz

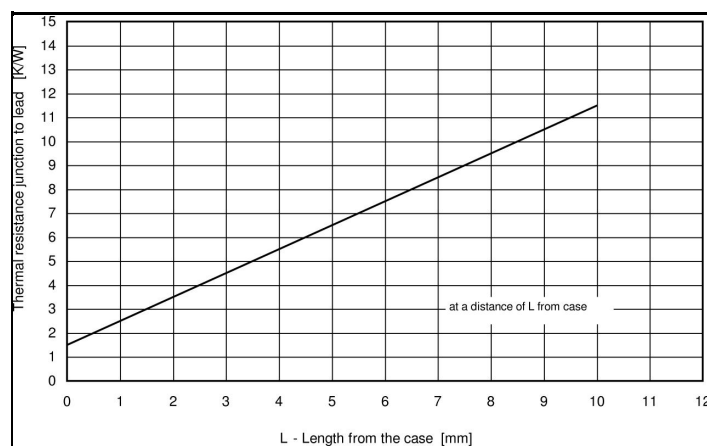


Fig. 4 Thermal resistance versus distance from case