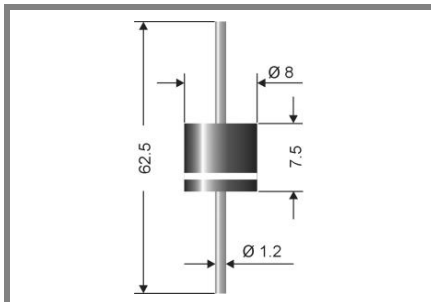


# HE 12FA ... HE 12FG



## Axial lead diode

Type	Repetitive peak reverse voltage $V_{RRM}$ V	Surge peak reverse voltage $V_{RSM}$ V	Max. reverse recovery time $I_F = 0,5 \text{ A}$ $I_R = 1 \text{ A}$ $I_{RR} = 0,25 \text{ A}$ $t_{rr}$ ns	Max. forward voltage $V_F^{(2)}$
HE 12FA	50	50	200	0,82
HE 12FB	100	100	200	0,82
HE 12FD	200	200	200	0,82
HE 12FG	400	400	200	0,84

## High efficiency fast silicon rectifier diode

### HE 12FA...HE 12FG

**Forward Current: 12 A**

**Reverse Voltage: 50 to 400 V**

### Features

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

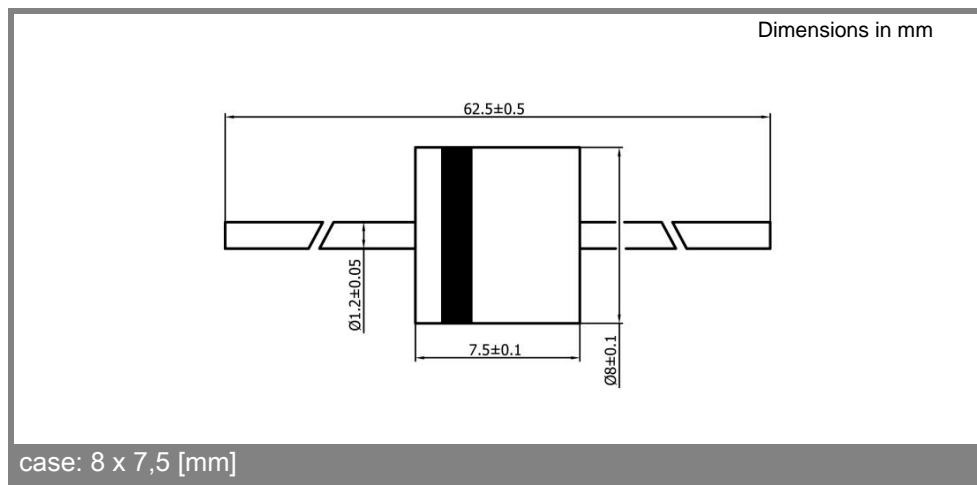
### Mechanical Data

- 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 ambient temperature at a distance of 10 mm from case
- 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  $T_J \leq 200 \text{ °C}$  in bypass mode / DC forward mode

Absolute Maximum Ratings		$T_A = 25 \text{ °C}$ , unless otherwise specified	
Symbol	Conditions	Values	Units
$I_{FAV}$	Max. averaged fwd. current, R-load, $T_A = 50 \text{ °C}^{(1)}$	12	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 $^{(3)}$	650	A
$i^2t$	Rating for fusing, $t < 10 \text{ ms}^{(3)}$	2100	A <sup>2</sup> s
$R_{thA}$	Max. thermal resistance junction to ambient $^{(1)}$		K/W
$R_{thL}$	Max. thermal resistance junction to terminals $^{(4)}$	2,5	K/W
$T_j$	Operating junction temperature	-50...+175 ( $T_j \leq 200 \text{ °C}$ in bypass mode $^{(5)}$ )	°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



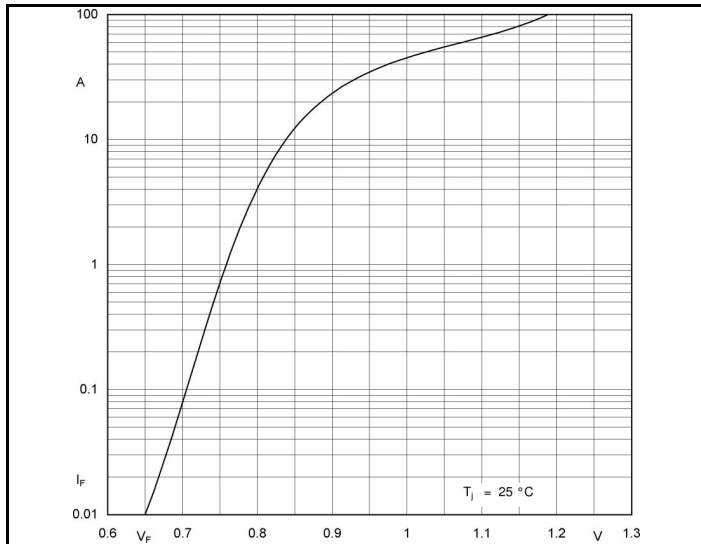


Fig. 1 Forward characteristic ( typical values ) <sup>1)</sup>

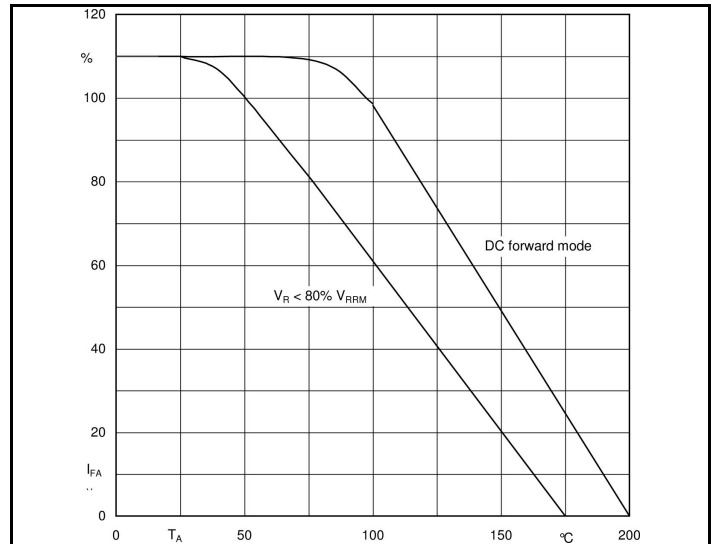


Fig. 2 Rated forward current vs. ambient temperature <sup>1)</sup>

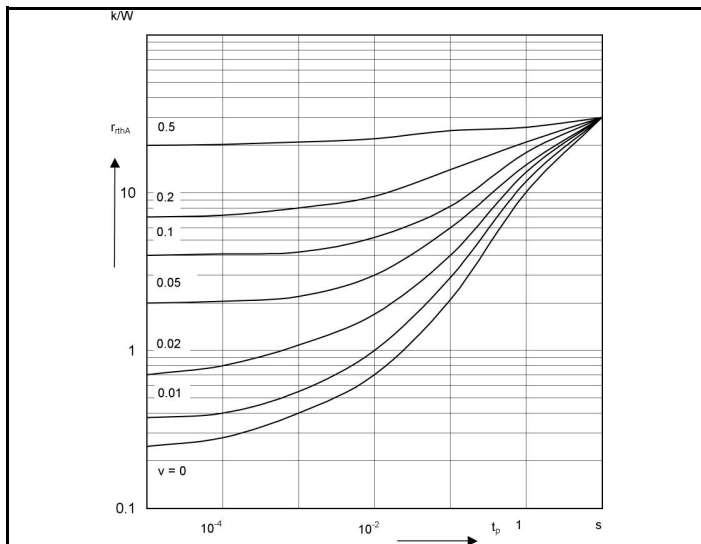


Fig. 3 Pulse thermal resistance vs. pulse duration <sup>1)</sup>

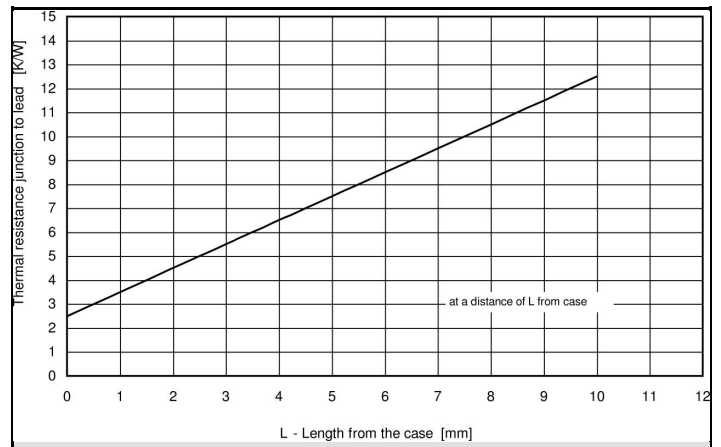


Fig. 4, Thermal resistance versus distance from case