

FR 5A ... FR 5M



Surface mount diode

Fast silicon rectifier diodes

FR 5A ... FR 5M

Forward Current: 5 A

Reverse Voltage: 50 to 1000 V

Features

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

Mechanical Data

- Plastic case: SMC / DO-214AB
- Weight approx.: 0,21 g
- Terminals: plated terminals solderable per MIL-STD-750
- Mounting position: any
- Standard packaging: 3000 pieces per reel

1) Max. temperature of the terminals $T_T = 70$ °C

2) $I_F = 5$ A, $T_J = 25$ °C

3) $T_A = 25$ °C

4) Mounted on P.C. board with 50 mm² copper pads at each terminal

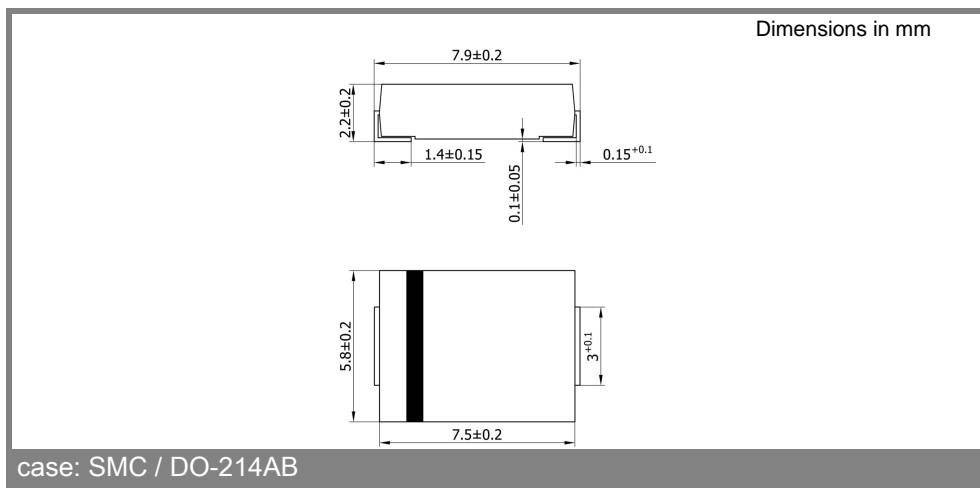
Type	Polarity color band	Repetitive peak reverse voltage V_{RRM} V	Surge peak reverse voltage V_{RSM} V	Maximum forward voltage $T_j = 25$ °C $I_F = 5$ A $V_F^{(2)}$ V	Maximum reverse recovery time $I_F = 0,5$ A $I_R = 1$ A $I_{RR} = 0,25$ A t_{rr} ns
FR 5A	-	50	50	1,3	150
FR 5B	-	100	100	1,3	150
FR 5D	-	200	200	1,3	150
FR 5G	-	400	400	1,3	150
FR 5J	-	600	600	1,3	250
FR 5K	-	800	800	1,3	500
FR 5M	-	1000	1000	1,3	500

Absolute Maximum Ratings $T_A = 25$ °C, unless otherwise specified

Symbol	Conditions	Values	Units
I_{FAV}	Max. averaged fwd. current, R-load, $T_T = 70$ °C ¹⁾	5	A
I_{FRM}	Repetitive peak forward current $f > 15$ Hz ¹⁾	15	A
I_{FSM}	Peak fwd. surge current 50 Hz half sinus-wave ³⁾	175	A
I^2t	Rating for fusing, $t < 10$ ms ³⁾	150	A ² s
R_{thA}	Max. thermal resistance junction to ambient ⁴⁾	50	K/W
R_{thT}	Max. thermal resistance junction to terminals	10	K/W
T_j	Operating junction temperature	- 50 ... + 150	°C
T_s	Storage temperature	- 50 ... + 150	°C

Characteristics $T_A = 25$ °C, unless otherwise specified

Symbol	Conditions	Values	Units
I_R	Maximum leakage current, $T_j = 25$ °C; $V_R = V_{RRM}$	<5	µA
	$T_j = 100$ °C; $V_R = V_{RRM}$	<200	µA
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 (L = mH; $T_j =$ °C; inductive load switched off)	-	mJ



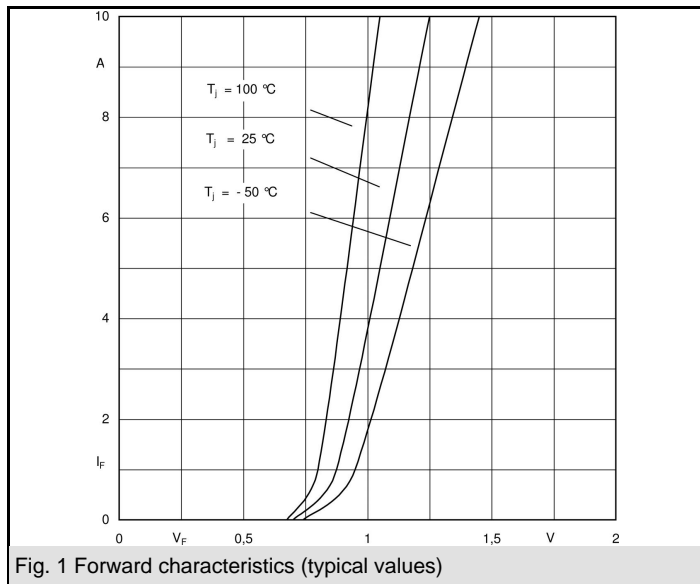


Fig. 1 Forward characteristics (typical values)

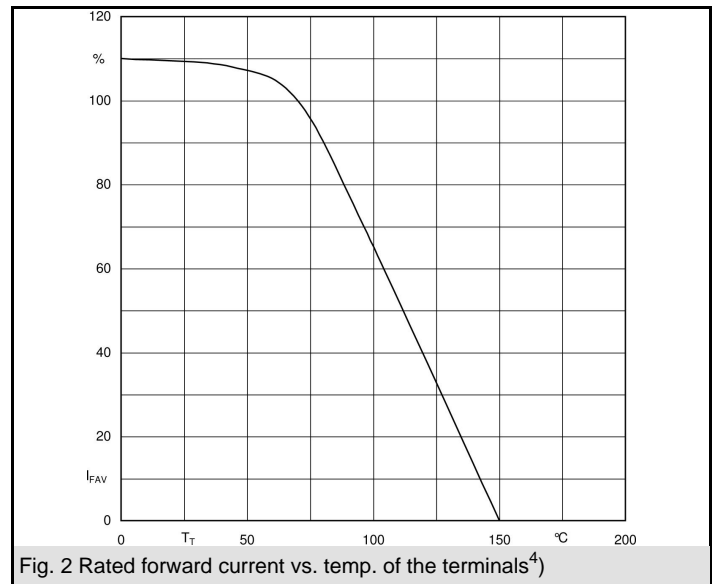


Fig. 2 Rated forward current vs. temp. of the terminals⁴⁾