

FR 3SMB A ... FR 3SMB M



Surface mount diode

Fast silicon rectifier diodes

FR 3SMB A ... FR 3SMB M

Forward Current: 3 A

Reverse Voltage: 50 to 1000 V

Features

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

Mechanical Data

- Plastic case: SMB / DO-214AA
- Weight approx.: 0,1 g
- Terminals: plated terminals solderable per MIL-STD-750
- Mounting position: any
- Standard packaging: 3000 pieces per reel

1) Max. temperature of the terminals $T_T = 100\text{ °C}$

2) $I_F = 3\text{ A}$, $T_J = 25\text{ °C}$

3) $T_A = 25\text{ °C}$

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 $T_J = 25\text{ °C}$ $I_F = 3\text{ A}$ $V_F^{(2)}$ V	Maximum reverse recovery time $I_F = 0,5\text{ A}$ $I_R = 1\text{ A}$ $I_{RR} = 0,25\text{ A}$ t_{rr} ns
FR 3SMB A	-	50	50	1,3	150
FR 3SMB B	-	100	100	1,3	150
FR 3SMB D	-	200	200	1,3	150
FR 3SMB G	-	400	400	1,3	150
FR 3SMB J	-	600	600	1,3	250
FR 3SMB K	-	800	800	1,3	500
FR 3SMB M	-	1000	1000	1,3	500

Absolute Maximum Ratings $T_A = 25\text{ °C}$, unless otherwise specified

Symbol	Conditions	Values	Units
I_{FAV}	Max. averaged fwd. current, R-load, $T_T = 100\text{ °C}$ 1)	3	A
I_{FRM}	Repetitive peak forward current $f > 15\text{ Hz}$ 1)	15	A
I_{FSM}	Peak fwd. surge current 50 Hz half sinus-wave 3)	100	A
I^2t	Rating for fusing, $t < 10\text{ ms}$ 3)	50	A ² s
R_{thA}	Max. thermal resistance junction to ambient 4)	60	K/W
R_{thT}	Max. thermal resistance junction to terminals	15	K/W
T_J	Operating junction temperature	- 50 ... + 150	°C
T_s	Storage temperature	- 50 ... + 150	°C

Characteristics $T_A = 25\text{ °C}$, unless otherwise specified

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



