

# 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  $T_T = 80$  °C

2)  $I_F = 3$  A,  $T_J = 25$  °C

3)  $T_A = 25$  °C

4) Mounted on P.C. board with 50 mm<sup>2</sup> 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 $I_F = 3$ 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 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		$T_A = 25$ °C, unless otherwise specified	
Symbol	Conditions	Values	Units
$I_{FAV}$	Max. averaged fwd. current, R-load, $T_T = 80$ °C <sup>1)</sup>	3	A
$I_{FRM}$	Repetitive peak forward current $f > 15$ Hz <sup>1)</sup>	15	A
$I_{FSM}$	Peak fwd. surge current 50 Hz half sinus-wave <sup>3)</sup>	100	A
$I^2t$	Rating for fusing, $t < 10$ ms <sup>3)</sup>	50	A <sup>2</sup> s
$R_{thA}$	Max. thermal resistance junction to ambient <sup>4)</sup>	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		$T_A = 25$ °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



