



## Surface mount diode

## Fast silicon rectifier diodes

### FR 1A...FR 1M

Forward Current: 1 A

Reverse Voltage: 50 to 1000 V

### Features

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

### Mechanical Data

- Plastic case SMA / DO-214AC
- Weight approx.: 0,07 g
- Terminals: plated terminals solderable per MIL-STD-750
- Mounting position: any
- Standard packaging: 7500 pieces per reel

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

2)  $I_F = 1\text{ A}$ ,  $T_j = 25\text{ °C}$

3)  $T_A = 25\text{ °C}$

4) Mounted on P.C. board with 25 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 $T_j = 25\text{ °C}$ $I_F = 1\text{ A}$ $V_F^{(2)}$ 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 1A	-	50	50	1,3	150
FR 1B	-	100	100	1,3	150
FR 1D	-	200	200	1,3	150
FR 1G	-	400	400	1,3	150
FR 1J	-	600	600	1,3	250
FR 1K	-	800	800	1,3	500
FR 1M	-	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	A
$I_{FRM}$	Repetitive peak forward current ( $f > 15\text{ Hz}^1$ )	6	A
$I_{FSM}$	Peak fwd. surge current 50 Hz half sinus-wave <sup>3)</sup>	30	A
$I^2t$	Rating for fusing, $t < 10\text{ ms}^3$	4,5	A <sup>2</sup> s
$R_{thA}$	Max. thermal resistance junction to ambient <sup>4)</sup>	70	K/W
$R_{thT}$	Max. thermal resistance junction to terminals	30	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



