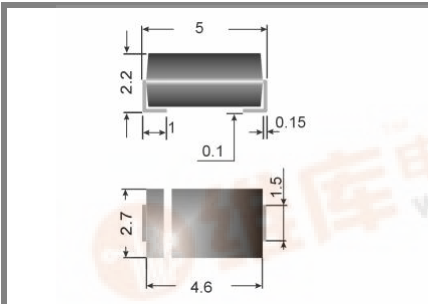


USA 1A ... USA 1M



Surface mount diode

Ultrafast Avalanche Diodes

USA 1A ... USA 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

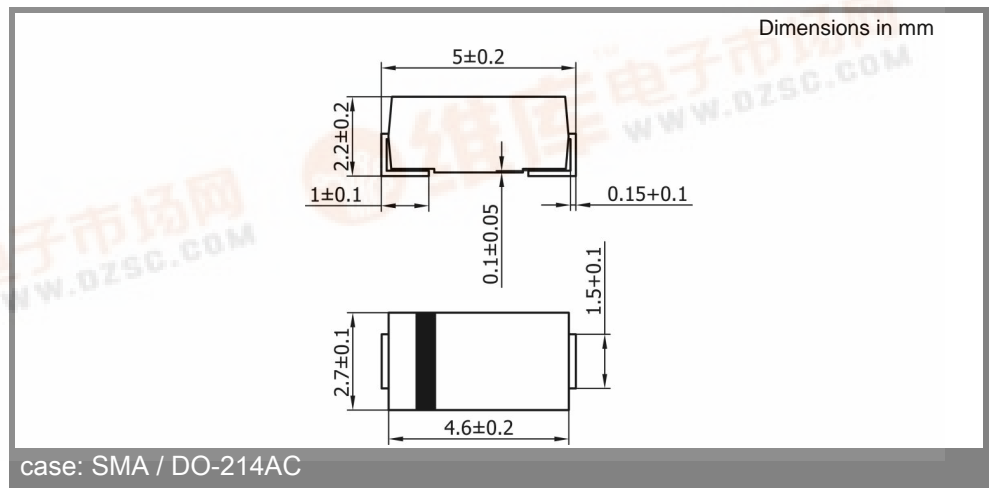
- Plastic case: SMA / DO-214AC
- Weight approx.: 0,07 g
- Terminals: plated terminals solderable per MIL-STD-750
- Mounting position: any
- Standard packaging: 7500 pieces per reel

- 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 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 $T_J = 25\text{ °C}$ $I_F = 1\text{ A}$ $V_F^{2)}$ 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
USA 1A	-	50	50	1	50
USA 1B	-	100	100	1	50
USA 1D	-	200	200	1	50
USA 1G	-	400	400	1,25	50
USA 1J	-	600	600	1,7	75
USA 1K	-	800	800	1,7	75
USA 1M	-	1000	1000	1,7	75

Absolute Maximum Ratings		$T_A = 25\text{ °C}$, unless otherwise specified	
Symbol	Conditions	Values	Units
I_{FAV}	Max. averaged fwd. current, R-load, $T_T = 100\text{ °C}^1)$	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 ³⁾	30	A
I^2t	Rating for fusing, $t < 10\text{ ms}^3)$	4,5	A ² s
R_{thA}	Max. thermal resistance junction to ambient ⁴⁾	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, $T_J = 25\text{ °C}$; $V_R = V_{RRM}$ $T_J = \text{°C}$; $V_R = V_{RRM}$	<3	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 ($I_R = 1\text{ mA}$; $T_J = 25\text{ °C}$; inductive load switched off)	20	mJ



USA 1A ... USA 1M

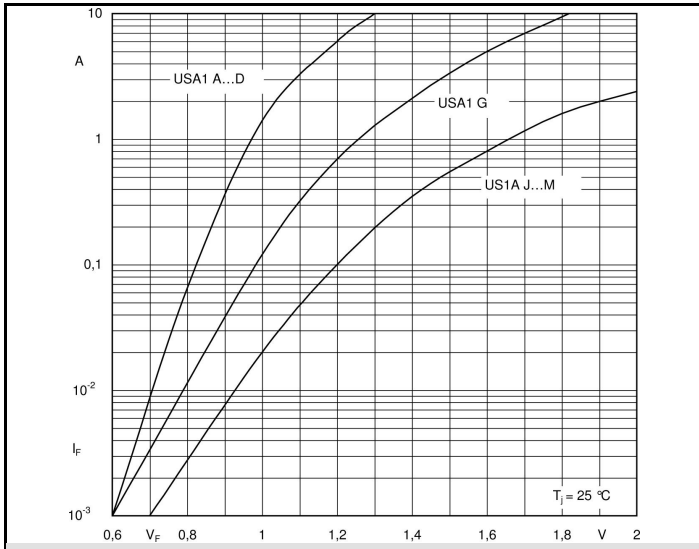


Fig. 1 Forward characteristics (typical values)

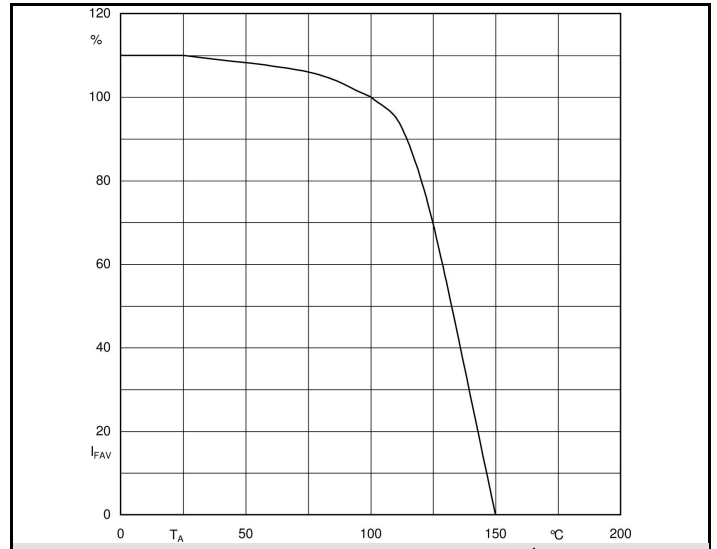


Fig. 2 Rated forward current vs. temp. of the terminals⁴⁾