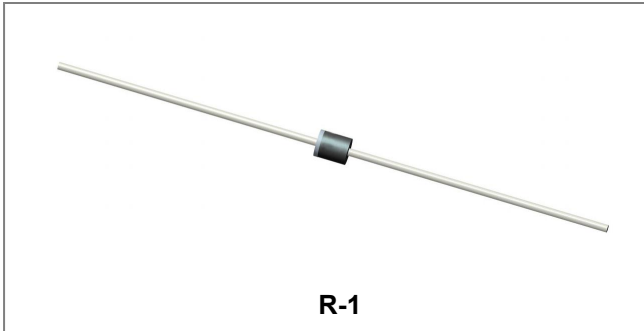




THE DATASHEET OF
1A7



1A1 THRU 1A7 1.0A MINIATURE SILICON RECTIFIER



Features

- Diffused Junction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Mechanical Data

- Case: R-1 Molded Plastic
- Terminals: Plated Leads Solderable Per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.181 grams(Approx)

Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Type Number	Symbol	1A1	1A2	1A3	1A4	1A5	1A6	1A7	Units
Peak Repetitive Reverse Voltage	V _{RRM}								V
Working Peak Reverse Voltage	V _{RWM}	50	100	200	400	600	800	1000	V
DC Blocking Voltage	V _R								V
RMS Reverse Voltage	V _{RMS}	35	70	140	280	420	560	700	V
Average forward rectified output current @T _A = 75°C	I _O	1.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	30							A
Forward Voltage @I _F = 1.0A	V _{FM}	1.0							V
Peak Reverse Current @T _A = 25°C	I _{RM}	5.0							μA
At Rated DC Blocking Voltage @T _A = 100°C		50							
Typical Junction Capacitance (Note 2)	C _J	15							pF
Typical Thermal Resistance Junction to Ambient (Note 1)	R _{θJA}	50							°C/W
Operating Junction Temperature Range	T _J	-65 to +125							°C
Storage Temperature Range	T _{STG}	-65 to +150							°C

Note: 1. Leads maintained at ambient temperature at a distance of 9.5mm form the case.
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - sales@smc-diodes.com •

Ratings and Characteristics Curves

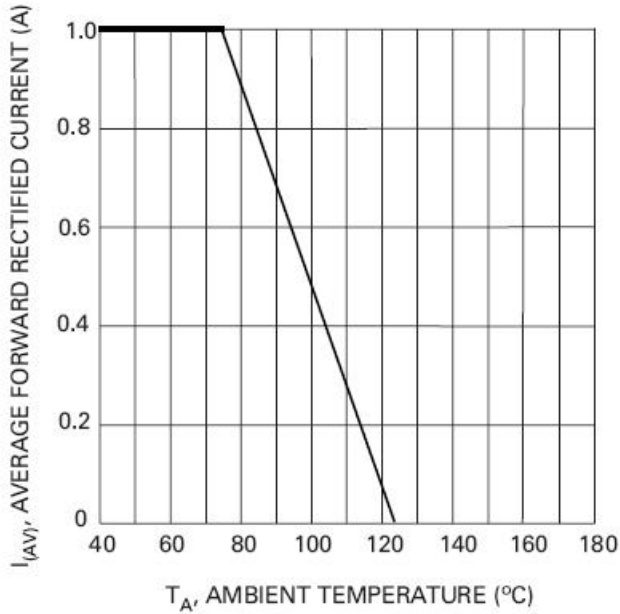


Fig. 1 Forward Current Derating Curve

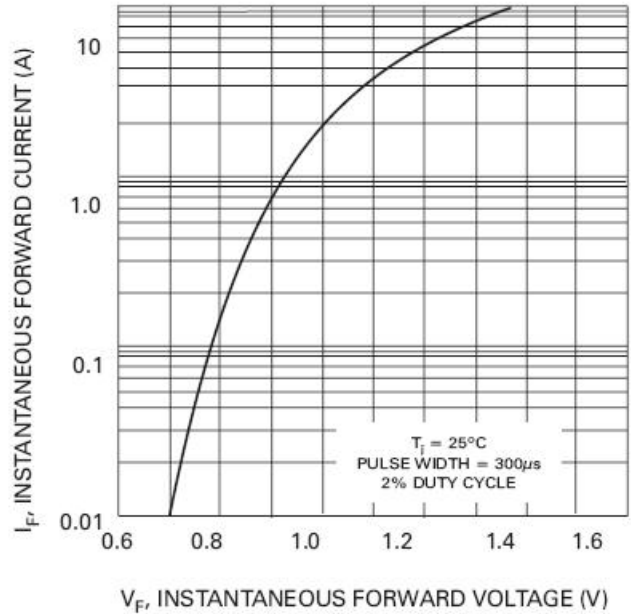


Fig. 2 Typical Forward Characteristics

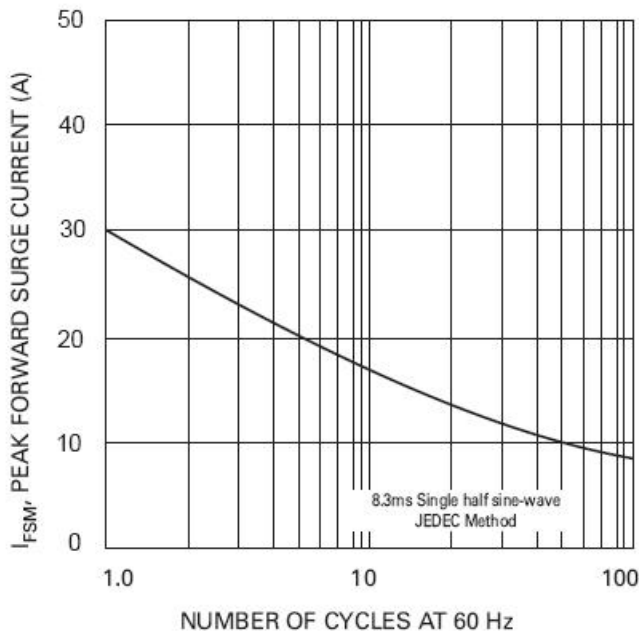


Fig. 3 Max Non-Repetitive Peak Fwd Surge Current

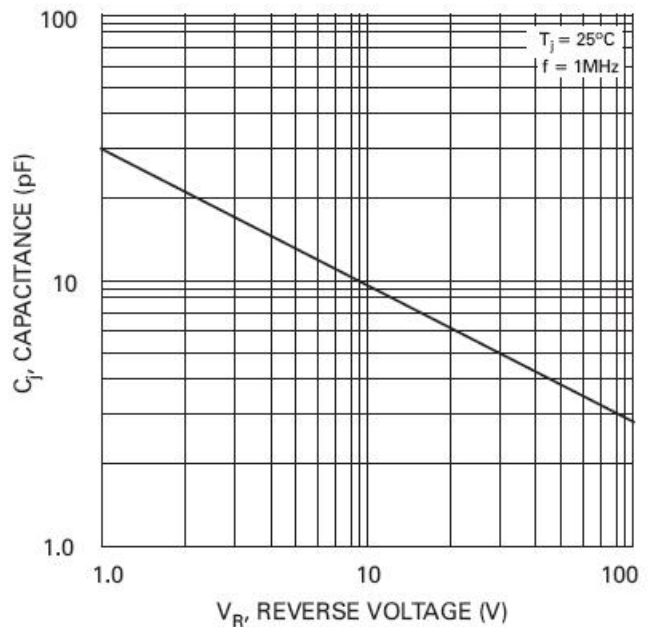
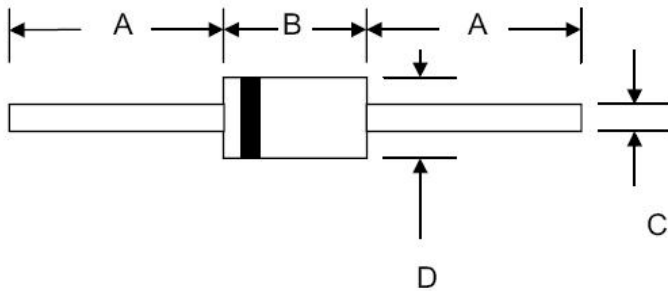


Fig. 4 Typical Junction Capacitance

Mechanical Dimensions R-1



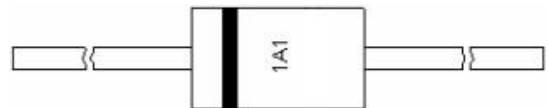
SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	20.0	-	0.787	-
B	2.00	3.5	0.079	0.138
C	0.53	0.64	0.021	0.025
D	2.20	2.60	0.087	0.102

Ordering Information

Device	Package	Shipping
1A1-1A7	R-1 (Pb-Free)	5000pcs / tape

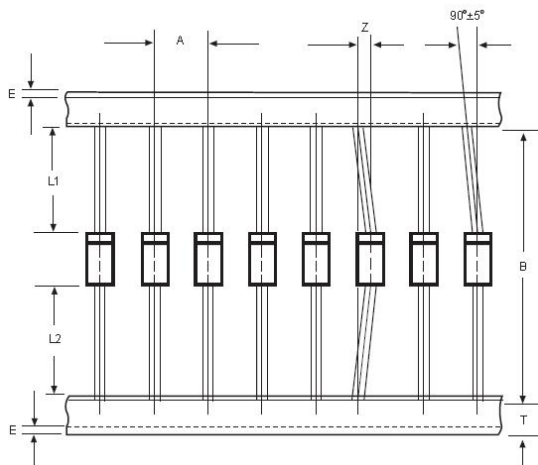
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram



1A1 = Type Number

Carrier Tape Specification R-1



SYMBOL	Millimeters	
	Min.	Max.
A	9.5	10.5
B	50.9	53.9
Z	-	1.20
T	5.60	6.40
E	-	0.80
IL1-L2I	-	1.0

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