



**TAYCHIPST**

SURFACE MOUNT FAST RECOVERY RECTIFIERS

RS1A THRU RS1M

50V-1000V 1.0A

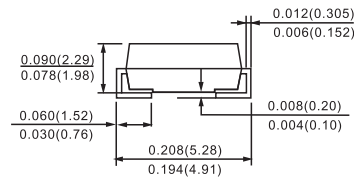
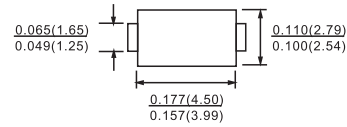
**Features**

- Glass Passivated Die Construction
- Fast Recovery Time For High Efficiency
- Low Forward Voltage Drop and High Current Capability
- Surge Overload Rating to 30A Peak
- Ideally Suited for Automated Assembly
- Plastic Material: UL Flammability Classification Rating 94V-0

**Mechanical Data**

- Case: Molded Plastic
- Terminals: Solder Plated Terminal - Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band or Cathode Notch
- SMA Weight: 0.064 grams (approx.)
- SMB Weight: 0.093 grams (approx.)
- Mounting Position: Any
- Marking: Type Number

DO-214AC(SMA)



Dimensions in inches and (millimeters)

**Absolute Maximum Ratings\***

T<sub>A</sub> = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
I <sub>o</sub>	Average Rectified Current @ T <sub>A</sub> = 100°C	1.0	A
I <sub>f(surge)</sub>	Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method)	30	A
P <sub>D</sub>	Total Device Dissipation Derate above 25°C	1.19 9.5	W mW/°C
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient **	105	°C/W
R <sub>θJC</sub>	Thermal Resistance, Junction to Case **	32	°C/W
T <sub>stg</sub>	Storage Temperature Range	-55 to +150	°C
T <sub>J</sub>	Operating Junction Temperature	-55 to +150	°C

These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.  
 Device mounted on FR-4 PCB 0.013 mm.

**Electrical Characteristics**

T<sub>A</sub> = 25°C unless otherwise noted

Parameter	Device							Units
	1A	1B	1D	1G	1J	1K	1M	
Peak Repetitive Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	280	420	560	700	V
DC Reverse Voltage (Rated V <sub>R</sub> )	50	100	200	400	600	800	1000	V
Maximum Reverse Current @ rated V <sub>R</sub> T <sub>A</sub> = 25°C	5.0							μA
T <sub>A</sub> = 125°C	50							μA
Maximum Forward Voltage @ 1.0 A	1.3							V
Maximum Reverse Recovery Time I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A	150				250	500		nS
Typical Junction Capacitance V <sub>R</sub> = 4.0 V, f = 1.0 MHz	10							pF

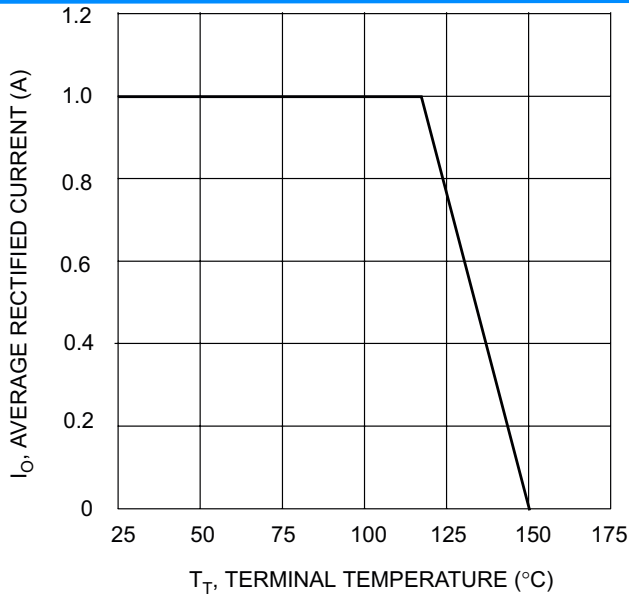


**TAYCHIPST**

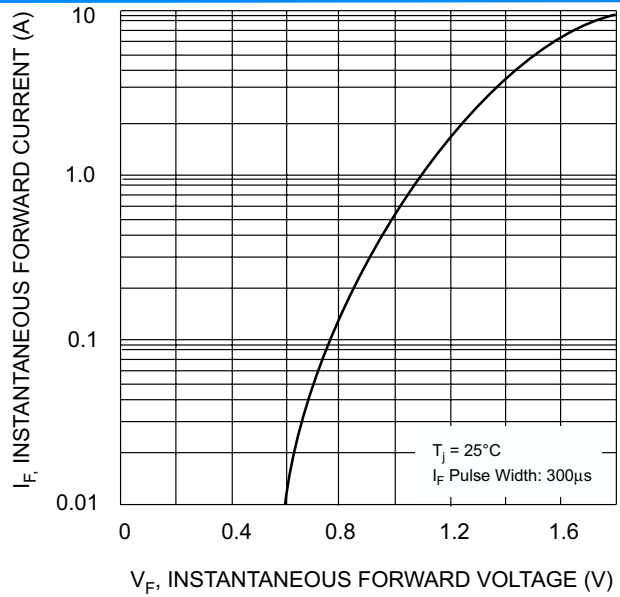
SURFACE MOUNT FAST RECOVERY RECTIFIERS

RS1A THRU RS1M

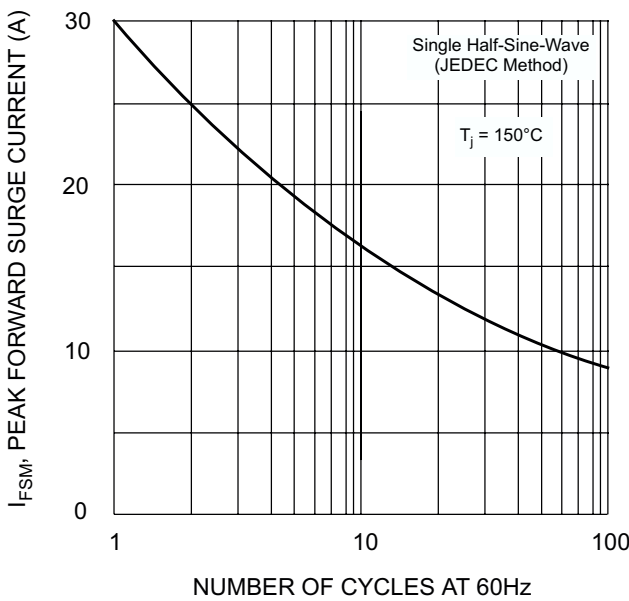
50V-1000V 1.0A



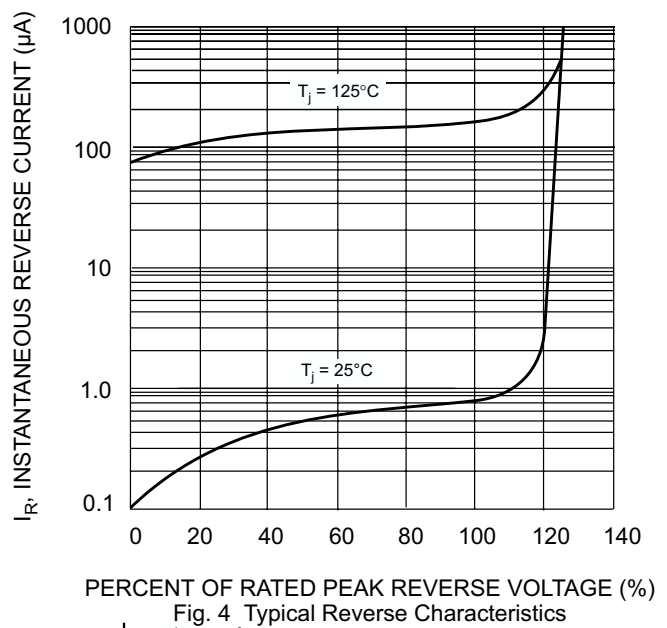
$T_T$ , TERMINAL TEMPERATURE (°C)  
Fig. 1 Forward Current Derating Curve



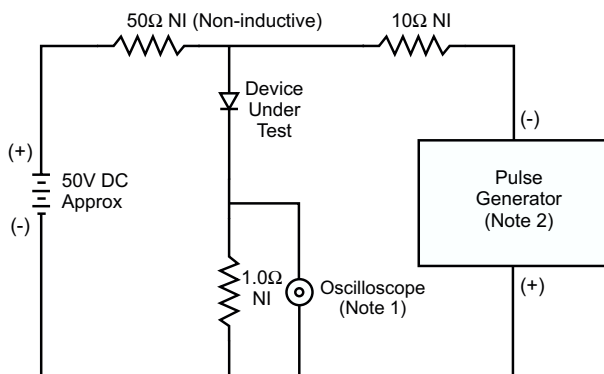
$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)  
Fig. 2 Typical Forward Characteristics



NUMBER OF CYCLES AT 60Hz  
Fig. 3 Forward Surge Current Derating Curve



PERCENT OF RATED PEAK REVERSE VOLTAGE (%)  
Fig. 4 Typical Reverse Characteristics



Notes:  
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.  
2. Rise Time = 10ns max. Input Impedance = 50Ω.

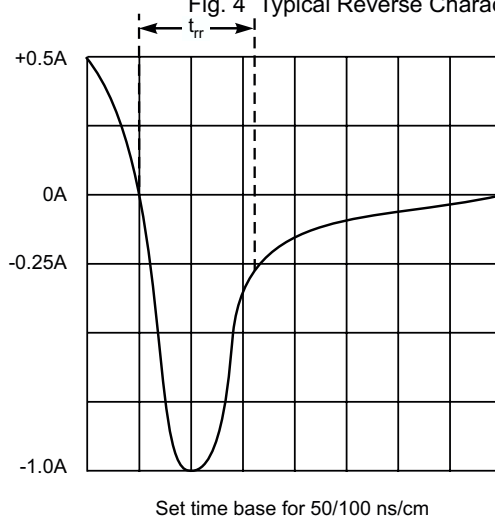


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit