

# RS1AA THRU RS1MA

## 1.0A Surface Mount Fast Recovery Rectifiers-50-1000V

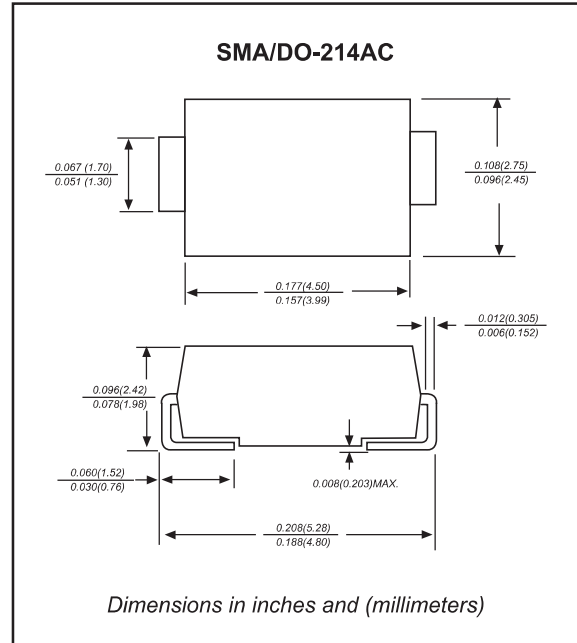
### Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Fast switching for high efficiency
- ◆ Low reverse leakage
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 250°C/10 seconds at terminals
- ◆ Glass passivated chip junction
- ◆ Compliant to RoHS Directive 2011/65/EU
- ◆ Compliant to Halogen-free

### Mechanical data

- ◆ **Case:** JEDEC DO-214AC molded plastic body
- ◆ **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- ◆ **Polarity:** Color band denotes cathode end
- ◆ **Mounting Position:** Any

### Package outline



### Maximum ratings and Electrical Characteristics (AT T<sub>A</sub>=25°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.2	I <sub>O</sub>			1.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I <sub>FSM</sub>			30	A
Reverse current	V <sub>R</sub> = V <sub>RRM</sub> T <sub>A</sub> = 25°C	I <sub>R</sub>			5.0	μA
	V <sub>R</sub> = V <sub>RRM</sub> T <sub>A</sub> = 100°C				50	
Thermal resistance	Junction to ambient NOTE 1	R <sub>θJA</sub>		50		°C/W
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C <sub>J</sub>		15		pF
Storage temperature		T <sub>STG</sub>	-65		+150	°C

SYMBOLS	V <sub>RM</sub> <sup>*1</sup> (V)	V <sub>RMS</sub> <sup>*2</sup> (V)	V <sub>R</sub> <sup>*3</sup> (V)	V <sub>F</sub> <sup>*4</sup> (V)	t <sub>rr</sub> <sup>*5</sup> (ns)	Operating temperature T <sub>J</sub> , (°C)
RS1AA	50	35	50	1.30	150	-55 to +150
RS1BA	100	70	100			
RS1DA	200	140	200			
RS1GA	400	280	400		250	
RS1JA	600	420	600			
RS1KA	800	560	800		500	
RS1MA	1000	700	1000			

- \*1 Repetitive peak reverse voltage
- \*2 RMS voltage
- \*3 Continuous reverse voltage
- \*4 Maximum forward voltage@I<sub>F</sub>=1.0A
- \*5 Maximum Reverse recovery time, note 2

NOTE: 1.P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas  
2. Reverse recovery time test condition, I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A

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## Rating and characteristic curves

FIG. 1- FORWARD CURRENT DERATING CURVE

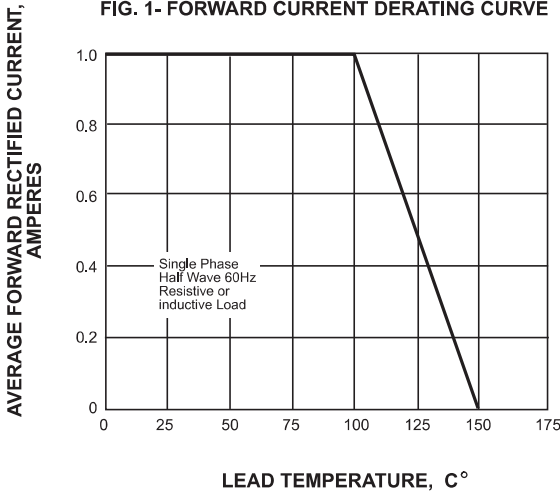


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

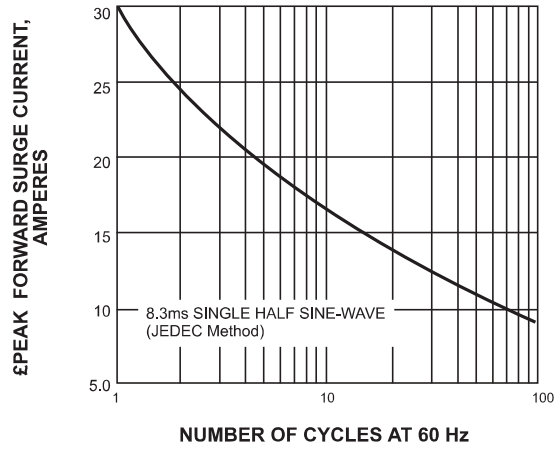


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

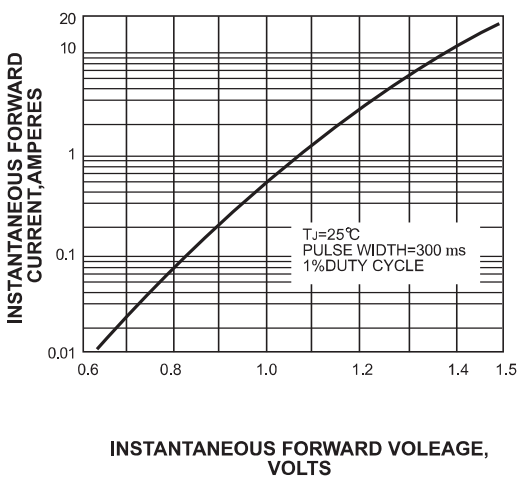


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

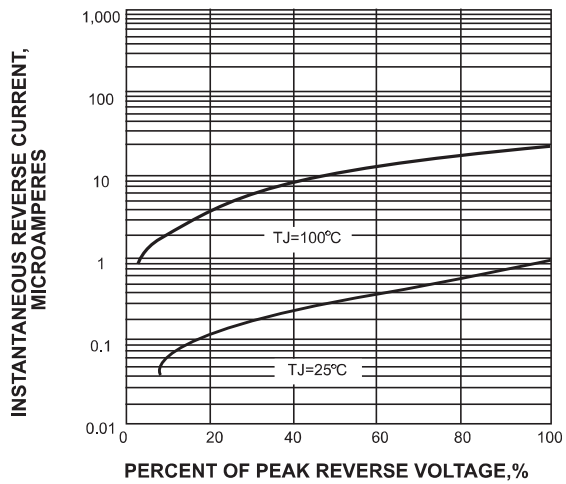


FIG. 5-TYPICAL JUNCTION CAPACITANCE

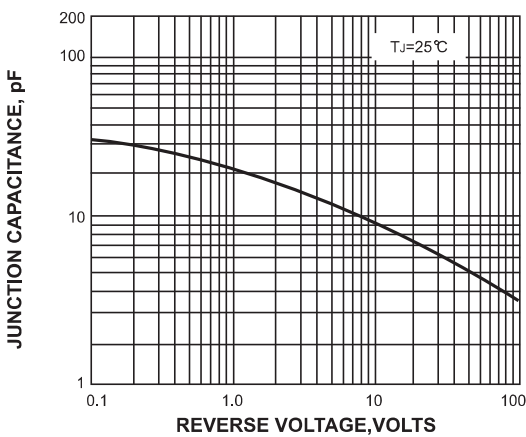
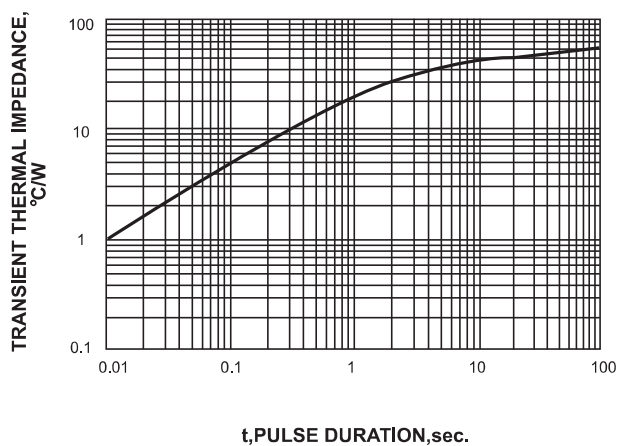




FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

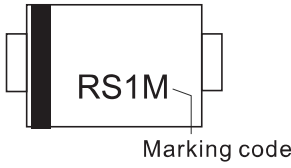


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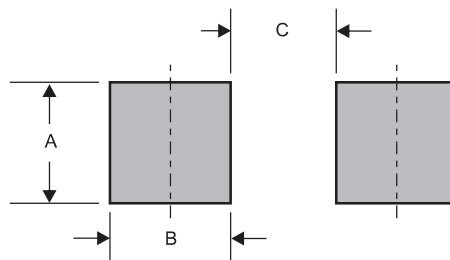
## Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

## Marking

Type number	Marking code	Example
RS1AA RS1BA RS1DA RS1GA RS1JA RS1KA RS1MA	RS1A RS1B RS1D RS1G RS1J RS1K RS1M	

## Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SMA	0.110 (2.80)	0.063 (1.60)	0.087 (2.20)