



## SUPER FAST GLASS PASSIVATED RECTIFIER

# SRA4E

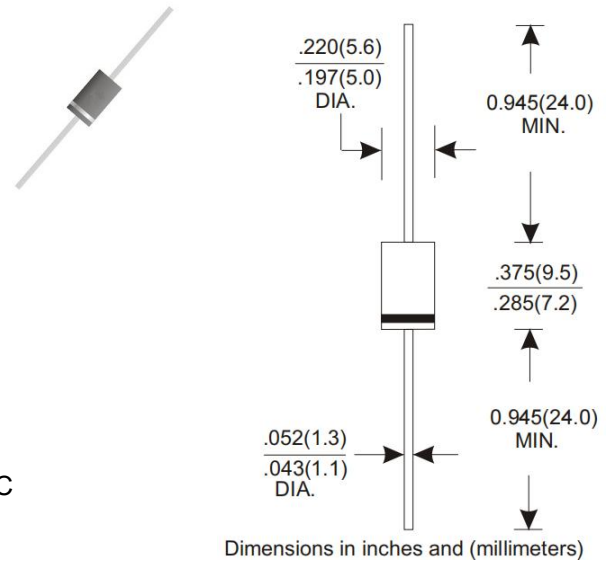
**VOLTAGE RANGE****400 Volts****CURRENT****10 Ampere**

### Features

- Super fast switching speed
- Glass passivated chip junction
- Low power loss, high efficiency
- Low leakage
- High Surge Capacity
- High temperature soldering guaranteed  
260°C/10 seconds, 0.375"(9.5mm) lead length

### Mechanical Data

- Case: Transfer molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.042ounce, 1.19 gram



### Maximum Ratings and Electrical Characteristics

- Ratings at 25°C ambient temperature unless otherwise specified
- Single Phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

TYPE NUMBER	SYMBOLS	SRA4E	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	400	Volts
Maximum RMS Voltage	$V_{RMS}$	280	Volts
Maximum DC Blocking Voltage	$V_{DC}$	400	Volts
Maximum Average Forward Rectified Current 0.375"(9.5mm) lead length at $T_A=100^{\circ}C$	$I_{(AV)}$	10	Amps
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	$I_{FSM}$	150	Amps
Maximum Instantaneous Forward Voltage at 10A	$V_F$	1.25	Volts
Maximum DC Reverse Current at rated DC blocking Voltage at	$T_A = 25^{\circ}C$	$I_R$	5.0
	$T_A = 125^{\circ}C$		150
			$\mu A$
Maximum Reverse Recovery Time (NOTE 1)	$T_{RR}$	35	nS
Typical Junction Capacitance (NOTE 2)	$C_J$	6.5	pF
Typical Thermal Resistance (NOTE 3)	$R_{\theta JA}$	30	$^{\circ}C/W$
Operating Junction Temperature Range	$T_J$	(-55 to +150)	$^{\circ}C$
Storage Temperature Range	$T_{STG}$	(-55 to +150)	$^{\circ}C$

#### Notes:

1. Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{rr}=0.25A$ .
2. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
3. Thermal Resistance from Junction to Ambient with 0.375"(9.5mm) lead length, PCB mounted.



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## Ratings and Characteristic Curves ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

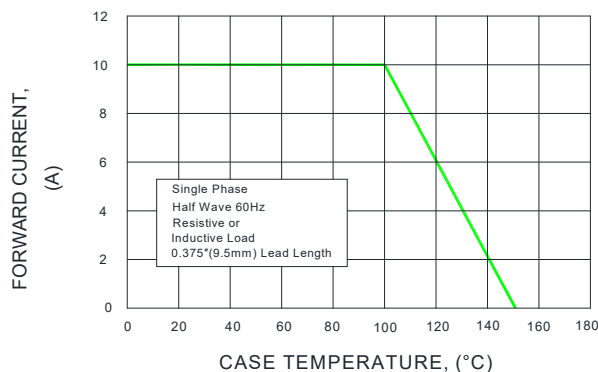


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

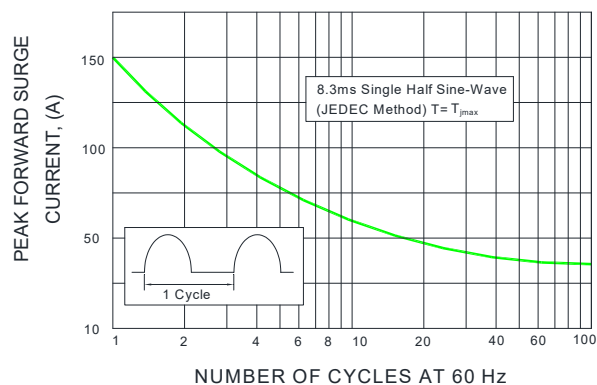


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

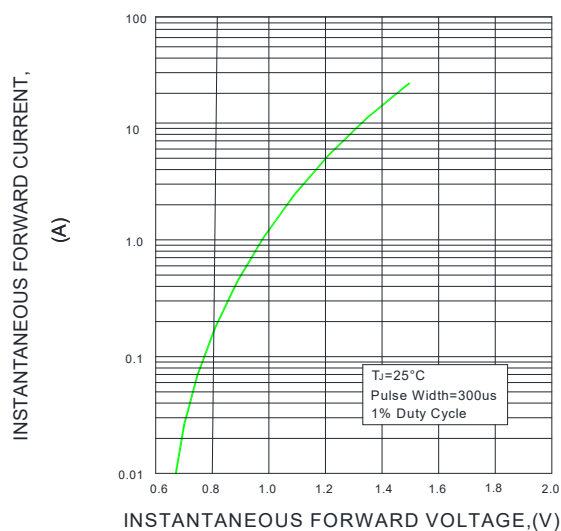


FIG.4-TYPICAL REVERSE CHARACTERISTICS

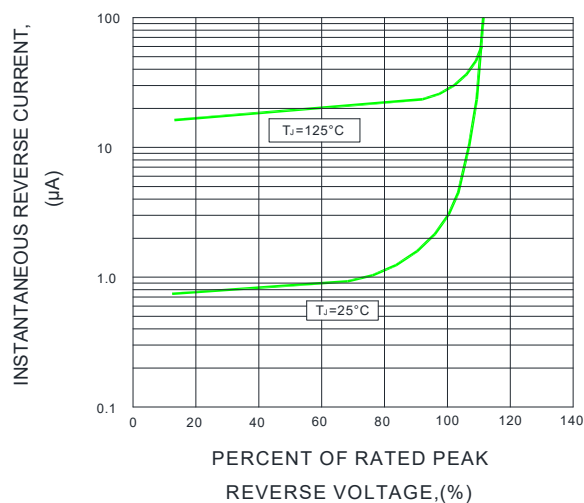


FIG.5-TYPICAL JUNCTION CAPACITANCE

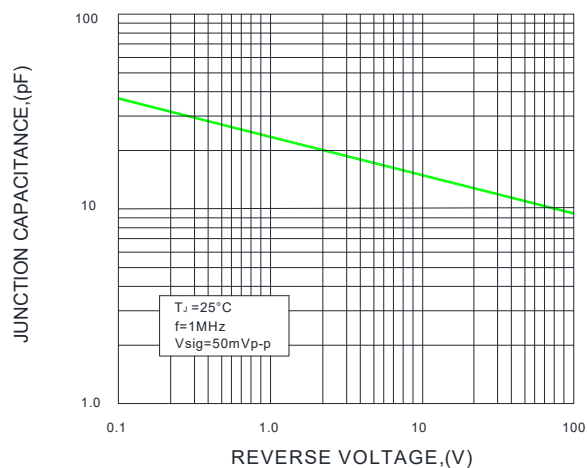
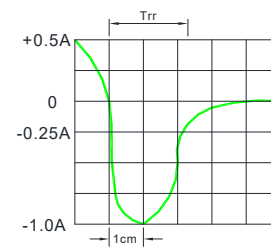
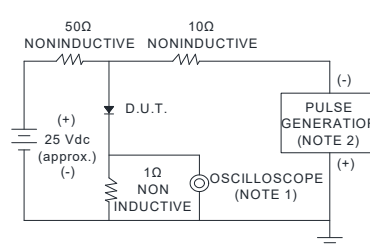


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



- NOTES : 1. Rise Time=7ns max. Input Impedance=1 magohm, 22pF  
2. Rise time=10ns max. Source Impedance=50 ohms

SET TIME BASE FOR 50/100ns/cm



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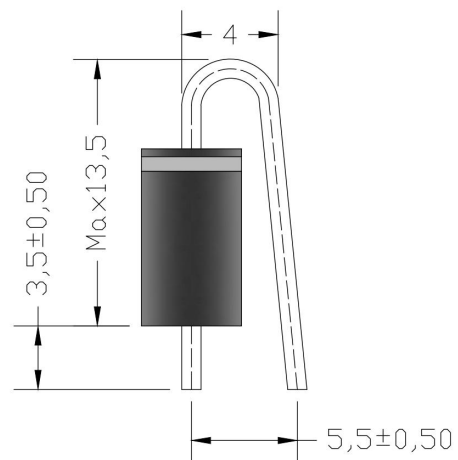
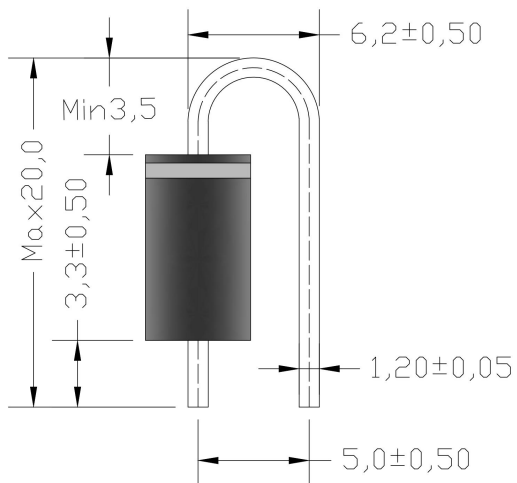
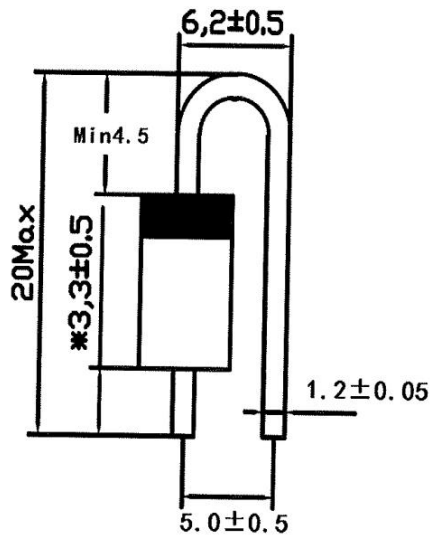
VOLTAGE RANGE

400 Volts

CURRENT

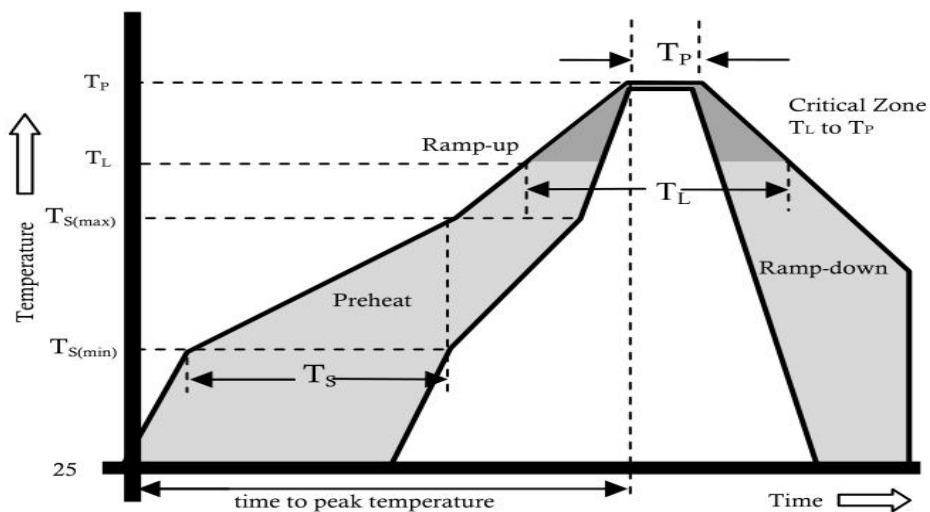
10 Ampere

### Dimensions(DO-27/DO-201AD)





## Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp(TL) to peak)		3°C/sec. Max.
TS(max) to TL - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature (TL)(Liquidus)	+217°C
	Temperature (TL)	60-150 secs.
Peak Temp (TP)		+(260+0/-5 )°C
Time within 5°C of actual Peak Temp (TP)		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp (TP)		8 min. Max.
Do not exceed		+260°C

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