



# ES2A THRU ES2J

## SURFACE MOUNT SUPER FAST RECTIFIER

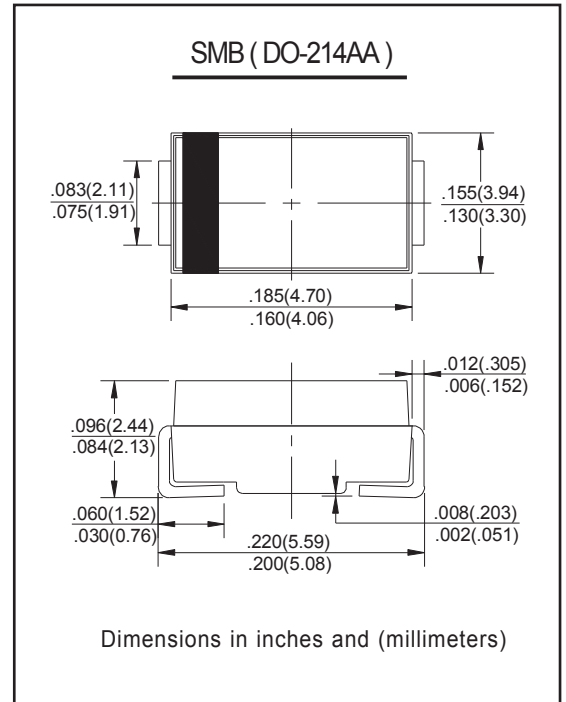
Reverse Voltage - 50 to 600 Volts      Forward Current - 2.0 Ampere

### FEATURES

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Super 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

### MECHANICAL DATA

**Case:** JEDEC DO-214AA molded plastic body  
**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026  
**Polarity:** Color band denotes cathode end  
**Mounting Position:** Any  
**Weight:** 0.005 ounce, 0.138 grams



### 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 current derate by 20%.

Characteristic	Symbol	ES2A	ES2B	ES2C	ES2D	ES2E	ES2G	ES2J	Unit
Peak Repetitive Reverse Voltage	VRRM								
Working Peak Reverse Voltage	VRWM	50	100	150	200	300	400	600	V
DC Blocking Voltage	VR								
RMS Reverse Voltage	VR(RMS)	35	70	105	140	210	280	420	V
Average Rectified Output Current @T <sub>C</sub> = 100°C	I <sub>O</sub>	2.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	50							A
Forward Voltage @I <sub>F</sub> = 2.0A	V <sub>FM</sub>	0.95				1.3		1.7	V
Peak Reverse Current @T <sub>A</sub> = 25°C	I <sub>RM</sub>	10							μA
At Rated DC Blocking Voltage @T <sub>A</sub> = 100°C		350							
Reverse Recovery Time (Note 1)	t <sub>rr</sub>	35							nS
Typical Junction Capacitance (Note 2)	C <sub>j</sub>	25				20			pF
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-55 to +150							°C

Note: 1. Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>RR</sub> = 0.25A.  
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.



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## RATINGS AND CHARACTERISTIC CURVES

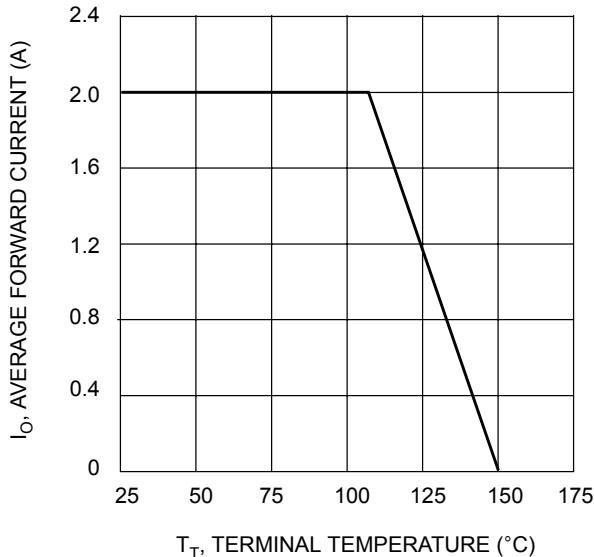


Fig. 1 Forward Current Derating Curve

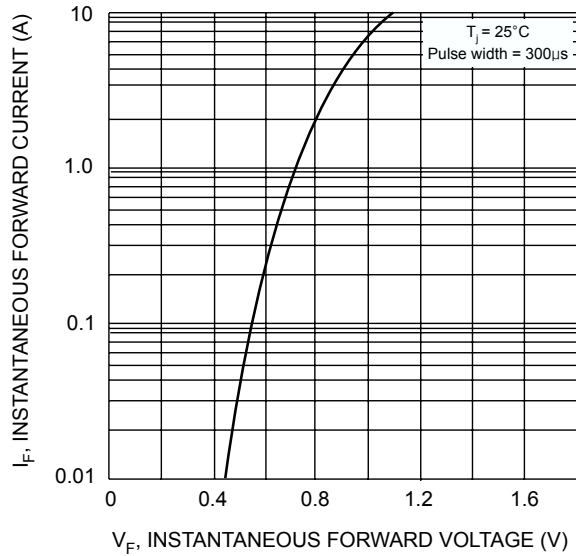


Fig. 2 Typical Forward Characteristics

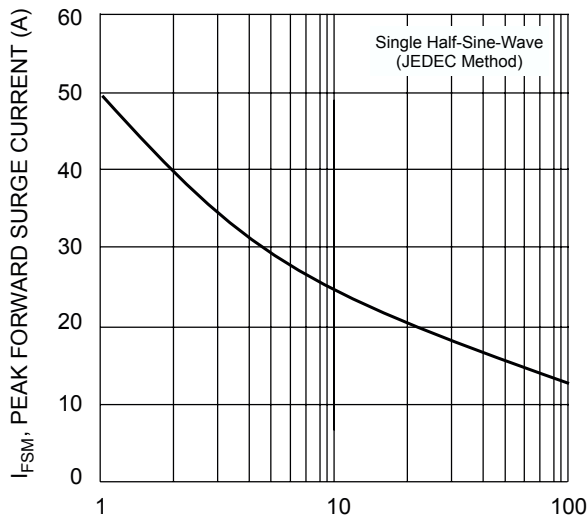


Fig. 3 Surge Current Derating Curve

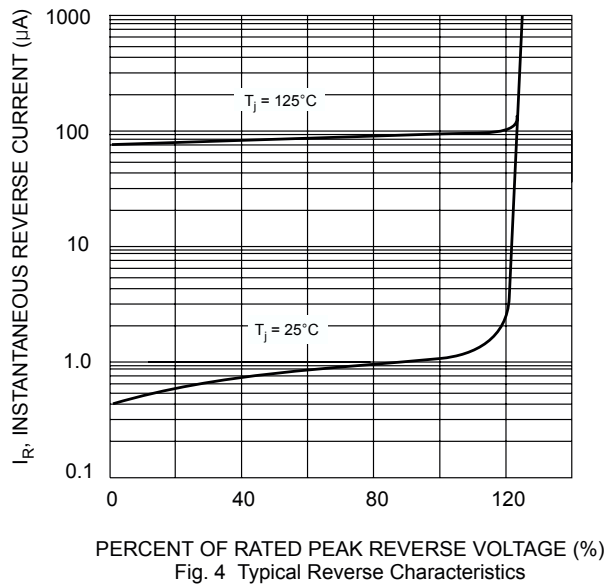
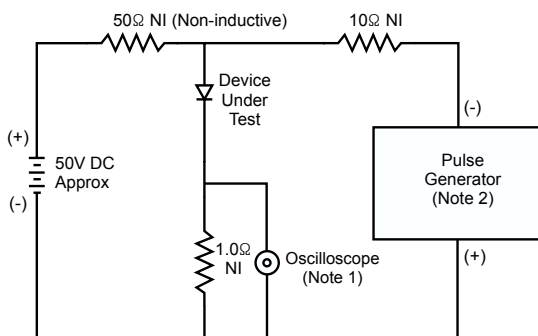
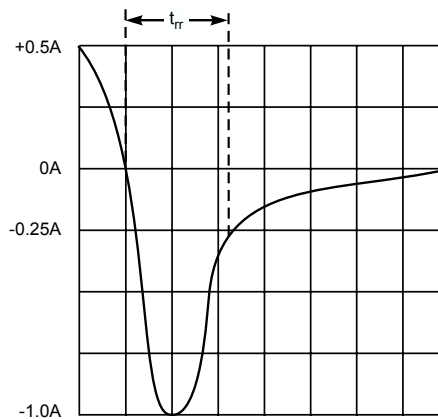


Fig. 4 Typical Reverse Characteristics



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0M $\Omega$ , 22pF.
  2. Rise Time = 10ns max. Input Impedance = 50 $\Omega$ .



Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit