

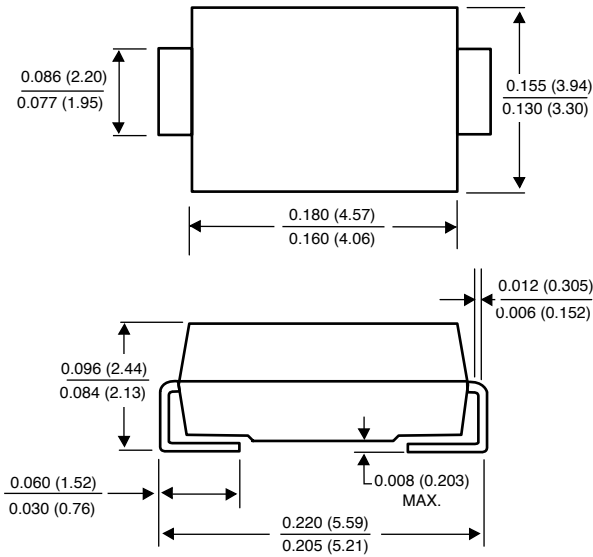
# ES2A THRU ES2D

## SURFACE MOUNT FAST EFFICIENT PLASTIC RECTIFIER

Reverse Voltage - 50 to 200 Volts

Forward Current - 2.0 Amperes

### DO-214AA



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mount applications
- ◆ Low profile package
- ◆ Built-in strain relief
- ◆ Ideal for automated placement
- ◆ Easy pick and place
- ◆ Glass passivated chip junction
- ◆ Superfast recovery times for high efficiency
- ◆ Low power loss, high efficiency
- ◆ High temperature soldering: 250°C/10 seconds at terminals



### MECHANICAL DATA

**Case:** JEDEC DO-214AA molded plastic body over passivated chip

**Terminals:** Solder plated solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Weight:** 0.003 ounces, 0.093 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	ES2A	ES2B	ES2C	ES2D	UNITS
Device marking code		EA	EB	EC	ED	
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	150	200	Volts
Maximum RMS voltage	V <sub>RMS</sub>	35	70	105	140	Volts
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	150	200	Volts
Maximum average forward rectified current at T <sub>L</sub> =110°C	I <sub>(AV)</sub>	2.0				Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T <sub>L</sub> =110°C	I <sub>FSM</sub>	50.0				Amps
Maximum instantaneous forward voltage at 2.0A	V <sub>F</sub>	0.90				Volts
Maximum DC reverse current at rated DC blocking voltage	I <sub>R</sub>	10.0 350				μA
Maximum reverse recovery time (NOTE 1)	t <sub>rr</sub>	20.0				ns
Maximum reverse recovery time (NOTE 2)	t <sub>rr</sub>	30.0 50.0				ns
Maximum stored charge (NOTE 2)	Q <sub>rr</sub>	10.0 25.0				nC
Typical junction capacitance (NOTE 3)	C <sub>J</sub>	18.0				pF
Maximum thermal resistance (NOTE 4)	R <sub>θJA</sub> R <sub>θJL</sub>	75.0 20.0				°C/W
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150				°C

#### NOTES:

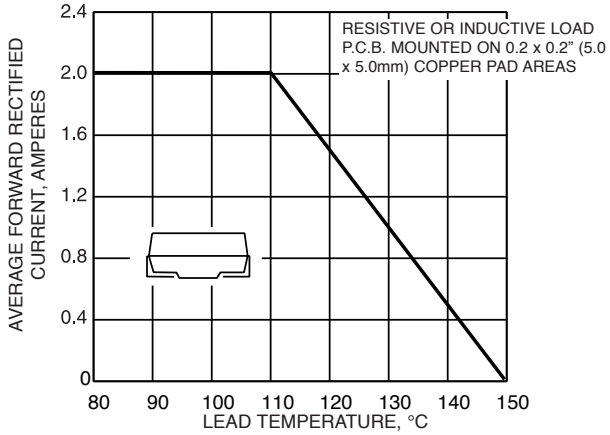
- (1) Reverse recovery test conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>= 1.0A, I<sub>rr</sub>=0.25A
- (2) T<sub>rr</sub> and Q<sub>rr</sub> measured at: I<sub>F</sub>=2.0A, V<sub>R</sub>=30V, di/dt=50A/μs, I<sub>rr</sub>=10% I<sub>F</sub>
- (3) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
- (4) Units mounted on P.C.B. 5.0 x 5.0mm (0.013mm thick) land areas

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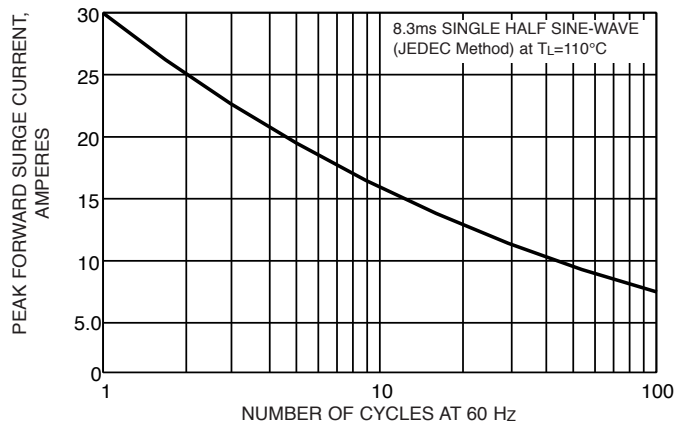
 GENERAL SEMICONDUCTOR®

# RATING AND CHARACTERISTIC CURVES ES2A THRU ES2D

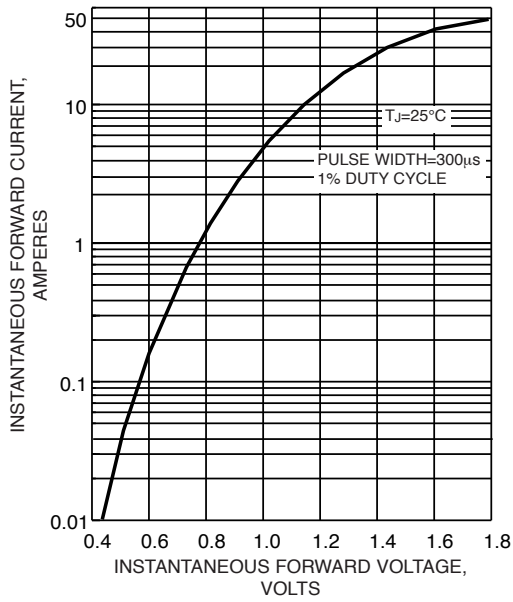
**FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE**



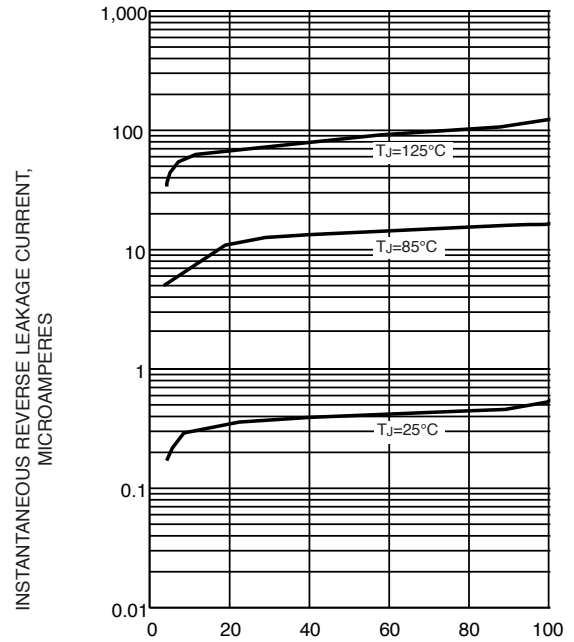
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



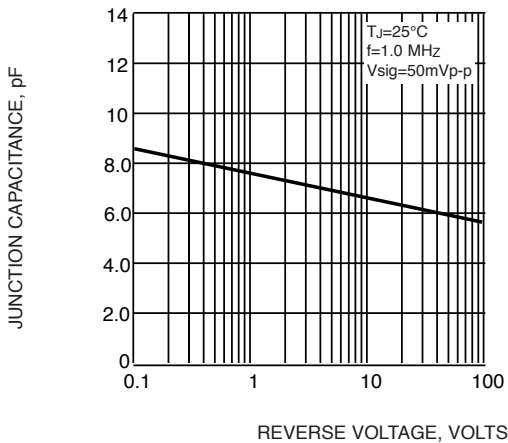
**FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS**



**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**



**PERCENT OF RATED PEAK REVERSE VOLTAGE, %**

