

# ES1J-1

**SURFACE MOUNT  
ULTRAFAST EFFICIENT RECTIFIER**  
VOLTAGE: 600V                      CURRENT: 1.0A

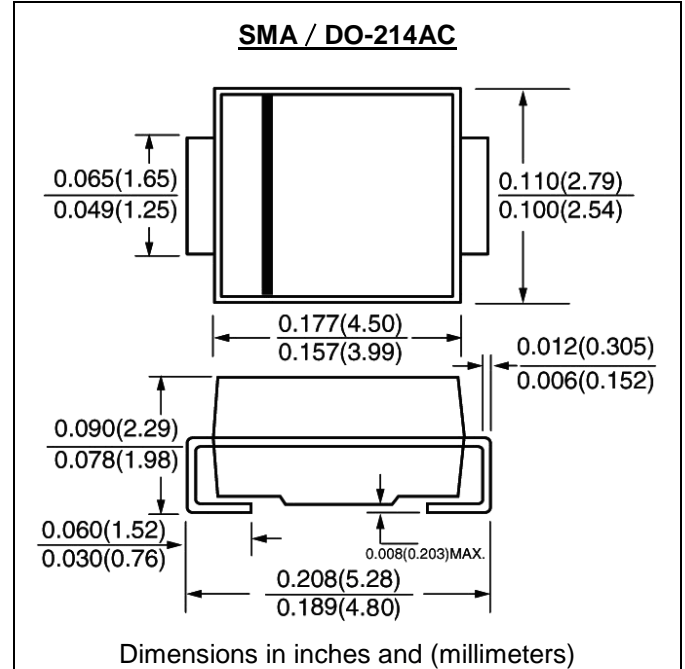


## FEATURE

Ideal for surface mount pick and place application  
Low profile package  
Built-in strain relief  
High surge capability  
High temperature soldering guaranteed:  
260°C/10sec at terminals  
Glass passivated chip  
Ultrafast recovery time for high efficiency

## MECHANICAL DATA

Terminal: Solder plated, solderable per J-STD-002  
Case: JEDEC DO-214AC molded plastic body over passivated chip  
Polarity: Color band denotes cathode



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(single-phase, half-wave, 60HZ, resistive or inductive load rating at 25°C, unless otherwise stated)

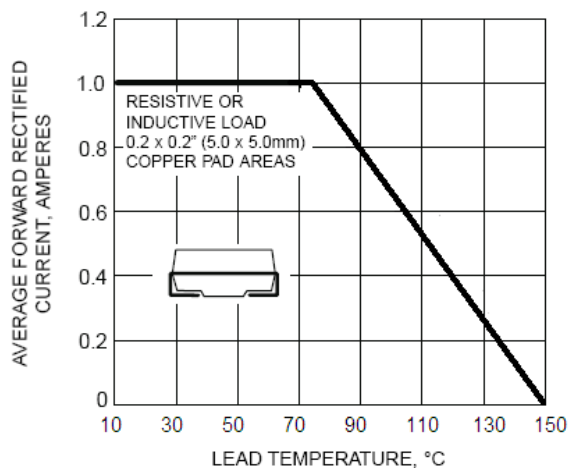
	Symbol	ES1J-1	units
Maximum Recurrent Peak Reverse Voltage	V <sub>rrm</sub>	600	V
Maximum RMS Voltage	V <sub>rms</sub>	420	V
Maximum DC blocking Voltage	V <sub>dc</sub>	600	V
Maximum Average Forward Rectified Current at T <sub>L</sub> =75°C	I <sub>f(av)</sub>	1.0	A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I <sub>fsm</sub>	30.0	A
Maximum Forward Voltage at rated forward current	V <sub>f</sub>	1.5	V
Maximum DC Reverse Current Ta =25°C at rated DC blocking voltage Ta =125°C	I <sub>r</sub>	10.0 100.0	μ A
Maximum Reverse Recovery Time (Note 1)	T <sub>rr</sub>	35	nS
Typical Junction Capacitance (Note 2)	C <sub>j</sub>	8.0	pF
Typical Thermal Resistance (Note 3)	R <sub>th(jl)</sub>	30.0	°C/W
Storage and Operating Junction Temperature	T <sub>stg</sub> , T <sub>j</sub>	-50 to +150	°C

### Note:

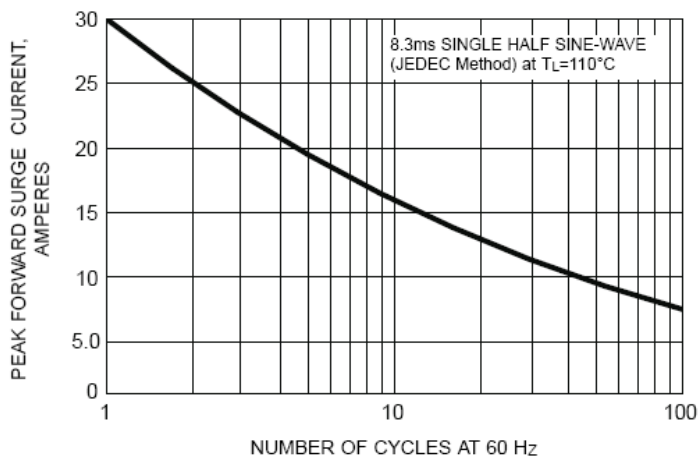
- Reverse Recovery Condition I<sub>f</sub> =0.5A, I<sub>r</sub> =1.0A, I<sub>rr</sub> =0.25A
- Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
- Thermal Resistance from Junction to terminal mounted on 5×5mm copper pad area

# RATINGS AND CHARACTERISTIC CURVES ES1J-1

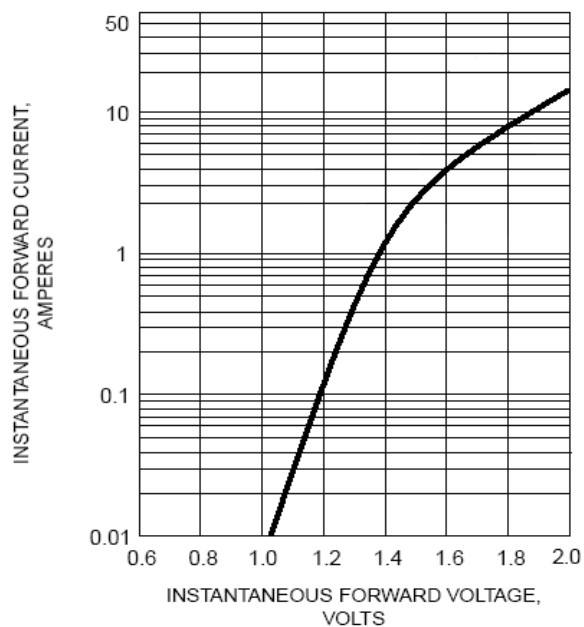
**FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE**



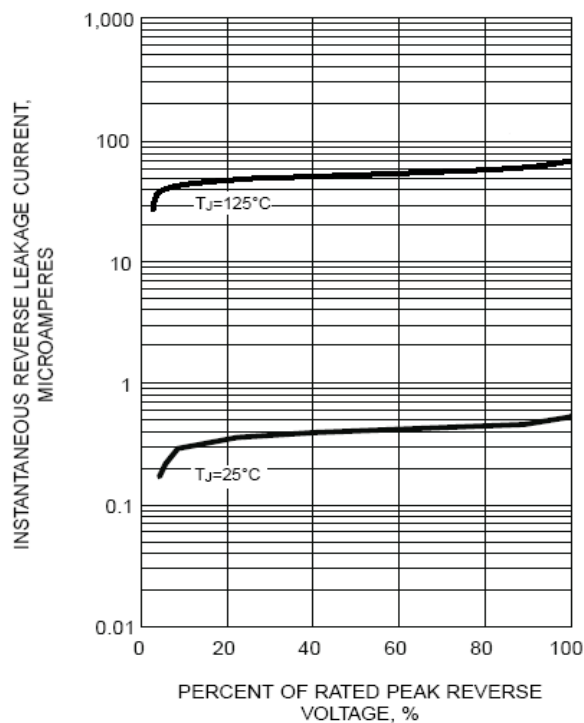
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



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



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



**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**

