



ES1K THRU ES1M

SURFACE MOUNT SUPER FAST RECTIFIER

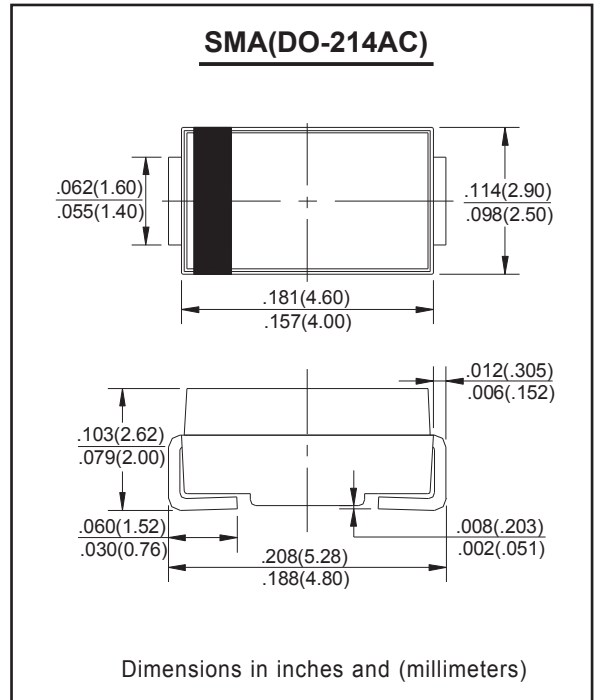
Reverse Voltage - 800 to 1000 Volts Forward Current - 1.0 Ampere

FEATURES

- Glass Passivated Die Construction
- 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-214AC molded plastic body
Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.064 grams (approx.)



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	ES1K	ES1M	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	VRRM VRWM VR	800	1000	V
RMS Reverse Voltage	VR(RMS)	560	700	V
Average Rectified Output Current @T _C = 100°C	I _O	1.0		A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	30		A
Forward Voltage @I _F = 1.0A	V _{FM}	2.5		V
Peak Reverse Current @T _A = 25°C At Rated DC Blocking Voltage @T _A = 125°C	I _{RM}	10.0 500		μA
Reverse Recovery Time (Note 1)	t _r	35		nS
Typical Junction Capacitance (Note 2)	C _j	10		pF
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150		°C

Note: 1. Measured with I_F = 0.5A, I_R = 1.0A, I_{RR} = 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

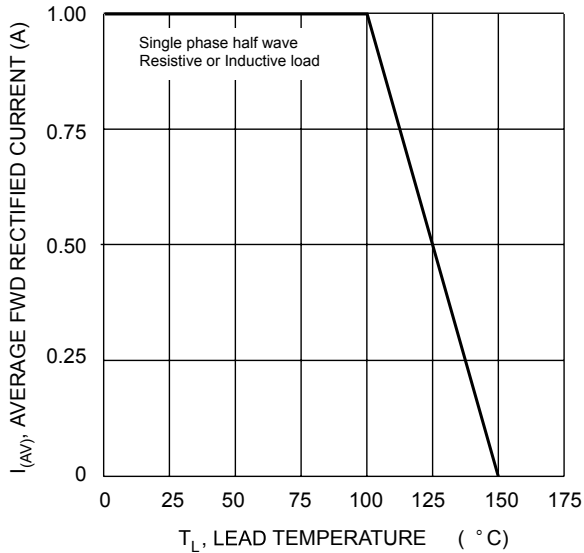


Fig. 1 Forward Current Derating Curve

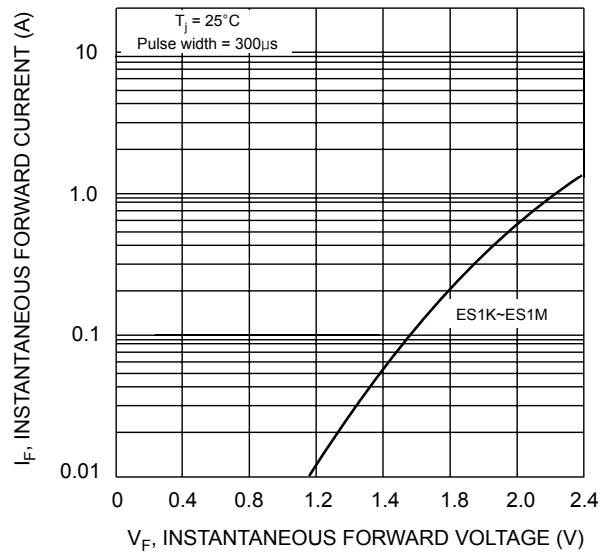


Fig. 2 Typical Forward Characteristics

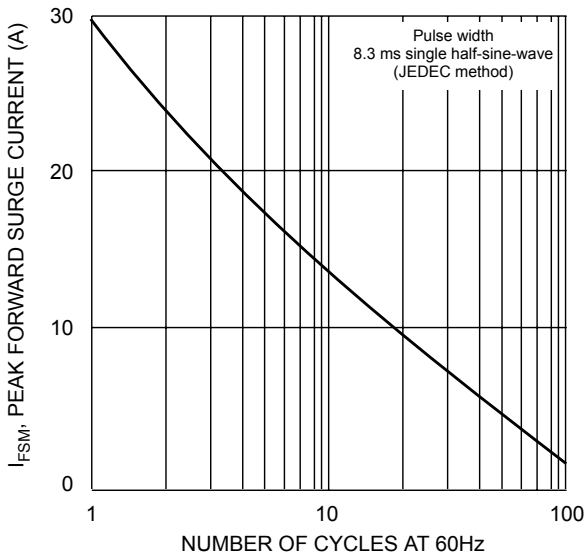


Fig. 3 Peak Forward Surge Current

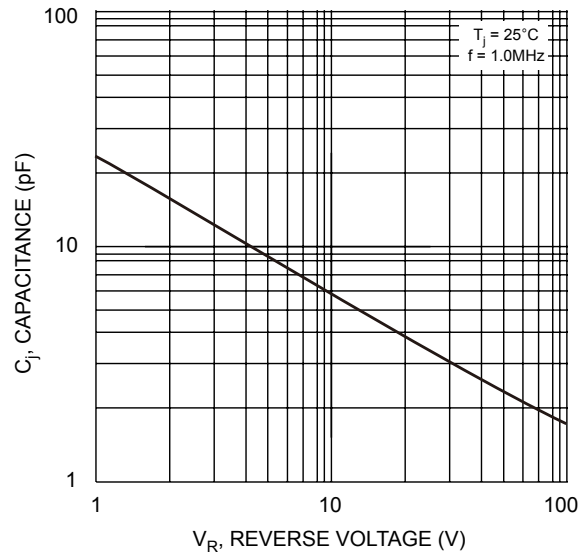
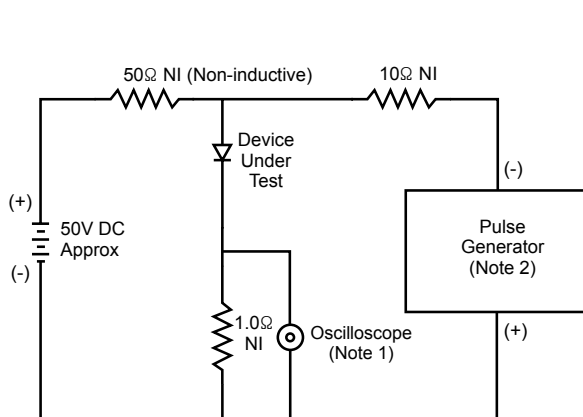
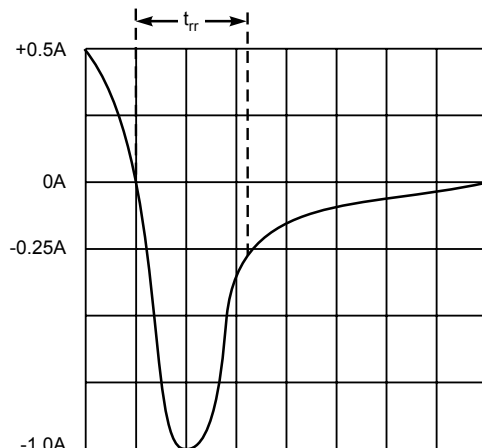


Fig. 4 Typical Junction Capacitance



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



Set time base for 5/10ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit