

ES1K - ES1M

SURFACE MOUNT SUPER FAST RECTIFIERS

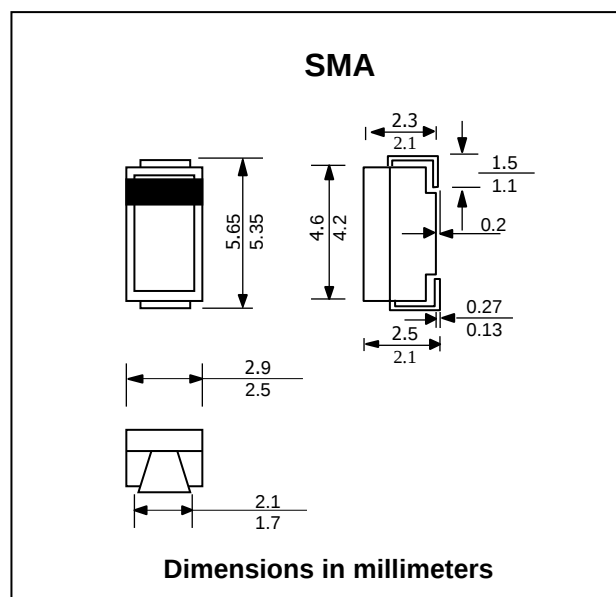
PRV : 800 - 1000 Volts
Io : 1.0 Ampere

FEATURES :

- * High current capability
- * High surge current capability
- * High reliability
- * Low reverse current
- * Low forward voltage drop
- * Super fast recovery time
- * Pb / RoHS Free

MECHANICAL DATA :

- * Case : SMA Molded plastic
- * Epoxy : UL94V-O rate flame retardant
- * Polarity : Color band denotes cathode end
- * Mounting position : Any
- * Weight : 0.060 gram (Approximately)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

RATING	SYMBOL	ES1K	ES1M	UNIT
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	800	1000	V
Maximum RMS Voltage	V_{RMS}	560	700	V
Maximum DC Blocking Voltage	V_{DC}	800	1000	V
Maximum Average Forward Current $T_a = 55\text{ }^{\circ}\text{C}$	$I_{F(AV)}$	1.0		A
Maximum Peak Forward Surge Current 8.3 ms. Single half sine wave Superimposed on rated load (JEDEC Method)	I_{FSM}	30		A
Maximum Peak Forward Voltage at $I_F = 1.0\text{ A}$	V_F	4.0		V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	10		μA
Maximum Reverse Recovery Time (Note 1)	T_{rr}	35		ns
Typical Junction Capacitance (Note 2)	C_J	50		pF
Junction Temperature Range	T_J	- 65 to + 150		$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	- 65 to + 150		$^{\circ}\text{C}$

Notes :

- (1) Reverse Recovery Test Conditions : $I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{rr} = 0.25\text{ A}$.
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 V_{DC}

RATING AND CHARACTERISTIC CURVES (ES1K - ES1M)

FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

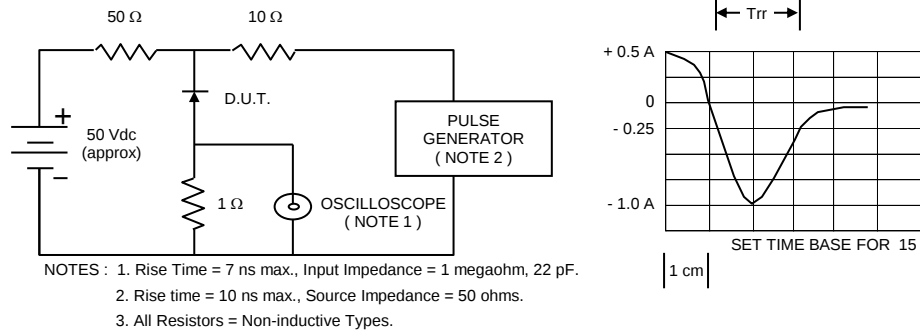


FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

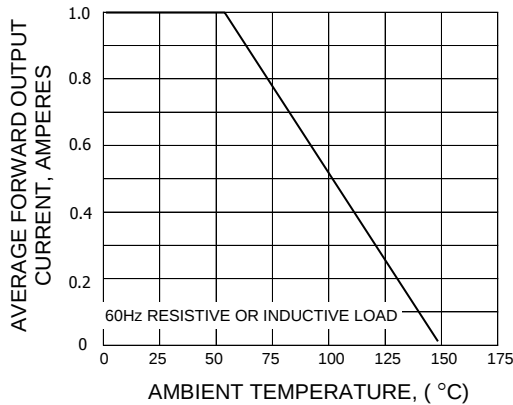


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

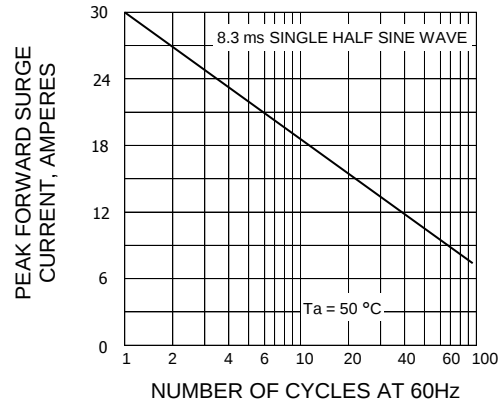


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

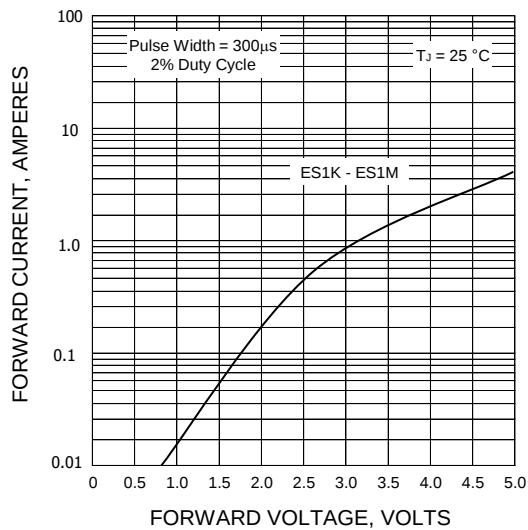


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

