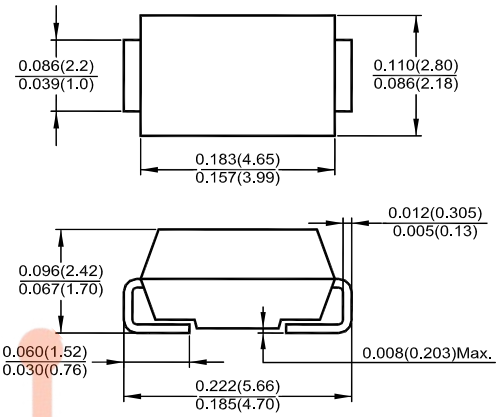
ES1A THRU ES1M

Surface Mount Superfast Recovery Rectifier
Reverse Voltage - 50 to 1000 V
Forward Current - 1 A

Features
- Glass passivated junction
- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Easy pick and place
- For surface mounted applications
- Low profile package
- Built-in strain relief
- Superfast recovery times for high efficiency

SMA (DO-214AC)



Dimensions in inches and (millimeters)

Mechanical Data
- **Case:** SMA (DO-214AC), molded plastic
- **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026 guaranteed
- **Polarity:** Color band denotes cathode end

Absolute Maximum Ratings and Characteristics
Ratings at 25℃ ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	ES1K	ES1M	Units
	Marking	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	ES1K	ES1M	-
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	25	70	105	140	210	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	800	1000	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1									A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	30									A
Maximum Forward Voltage at 1 A	V_F	1				1.3		1.7			V
Maximum Reverse Current T_J = 25℃ at Rated DC Blocking Voltage T_J = 125℃	I_R	5 50									μA
Typical Junction Capacitance at V_R = 4 V, f = 1 MH_Z	C_J	10									pF
Typical Reverse Recovery Time at I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A	t_{rr}	35									ns
Typical Thermal Resistance	$R_{\theta JL}$ $R_{\theta JA}$	35 85									℃/W
Operating Junction and Storage Temperature Range	T_j ,T_{stg}	- 55 to + 150									℃

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

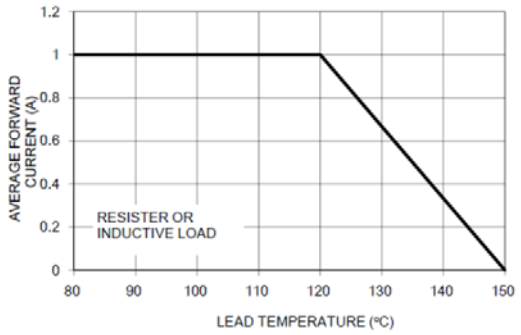


FIG. 2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

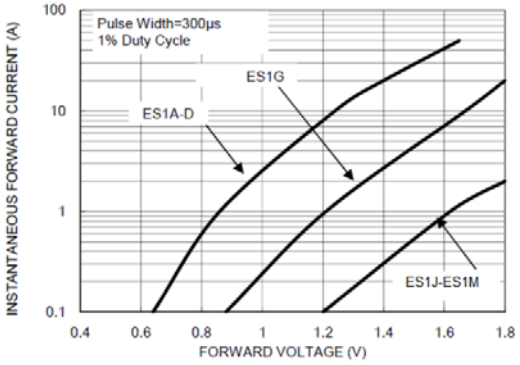


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD PEAK SURGE CURRENT

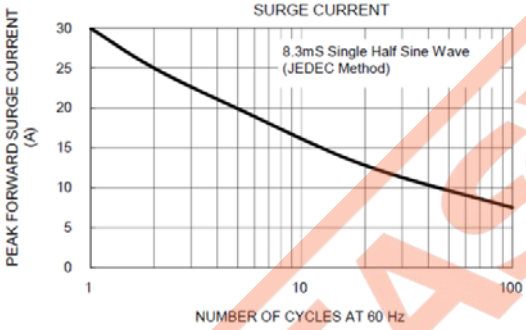


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

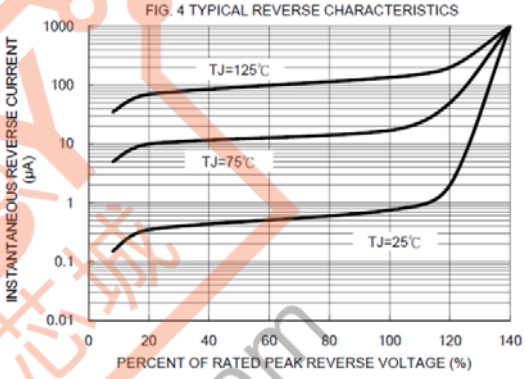


FIG. 5 TYPICAL JUNCTION CAPACITANCE