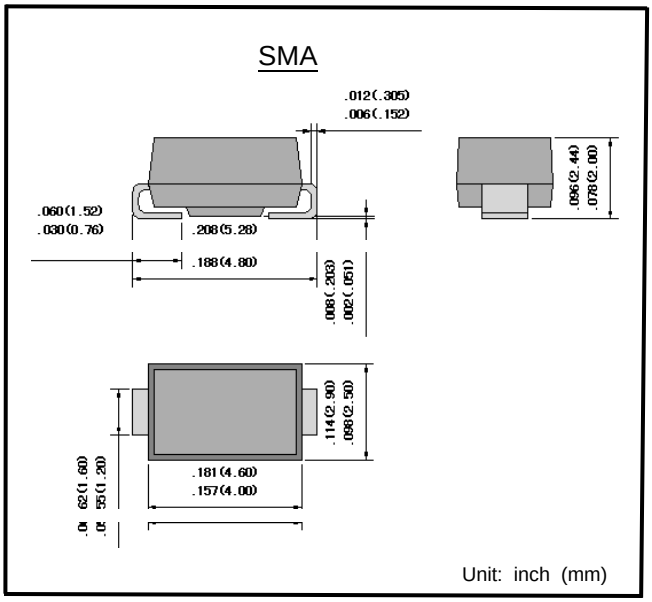
ES1M-2K-46M

Surface Mount Super Fast Recovery Rectifiers
Reverse Voltage - 50 to 1000 V
Forward Current - 1 A



Features
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Low reverse leakage
- Built-in strain relief,ideal for automated
- Placement High forward surge current capability
- Halogen and Antimony Free(HAF), RoHS compliant

Mechanical Data
- **Case:** JEDEC DO-214AC/SMA Molded plastic body
- **Terminals:** Solder plated, solderable per MIL-STD-750,Method 2026
- **Polarity:** Polarity symbol marking on body

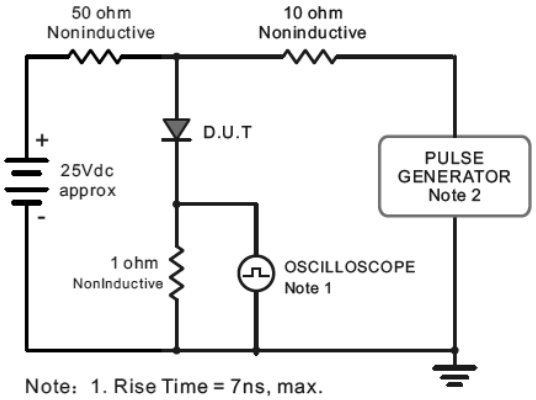
Absolute Maximum Ratings and Characteristics
Ratings at 25℃ ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	ES1M-2K-46M	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	1000	V
Maximum RMS Voltage	V_{RMS}	700	V
Maximum DC Blocking Voltage	V_{DC}	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	3.2	V
Maximum Reverse Current at Rated DC Blocking Voltage T_J = 25℃ / T_J = 125℃	I_R	5 / 50	μA
Typical Junction Capacitance at V_R = 4 V, f = 1 MH_Z	C_J	30	pF
Maximum 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 [1]	$R_{\theta JA}$	75	℃/W
Operating Junction Temperature Range	T_j	- 55 to + 150	℃
Storage Temperature Range	T_{stg}	- 55 to + 150	℃

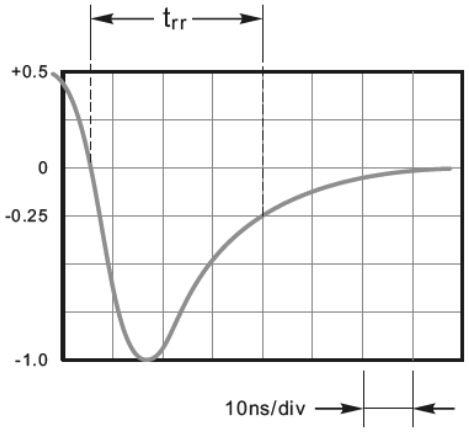
[1] P.C.B. mounted with 1.0" x 1.0"(2.54 x 2.54 cm) copper pad areas.

Electrical Characteristic Curves

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



Note: 1. Rise Time = 7ns, max.
Input Impedance = 1megohm,22pF.
2. Ries Time =10ns, max.
Source Impedance = 50 ohms.



Set time Base for 10ns/div

Fig.2 Maximum Average Forward Current Rating

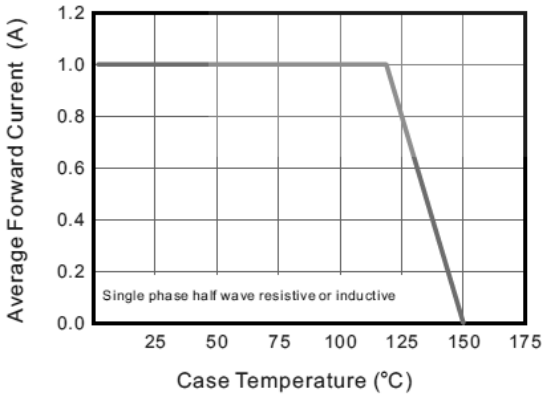


Fig.3 Typical Reverse Characteristics

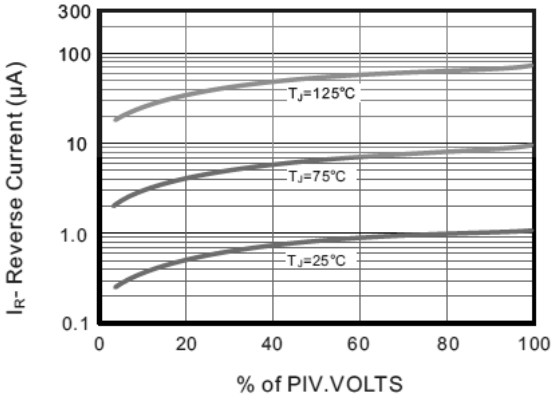


Fig.4 Typical Forward Characteristics

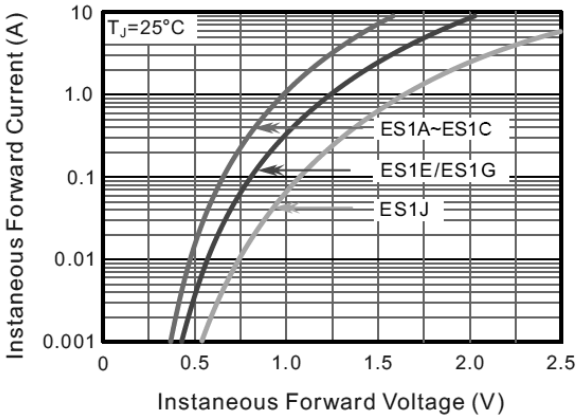
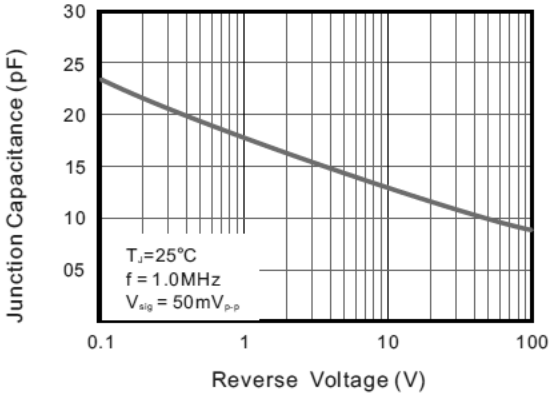


Fig.5 Typical Junction Capacitance



Electrical Characteristic Curves

Fig.6 Maximum Non-Repetitive Peak Forward Surage Current

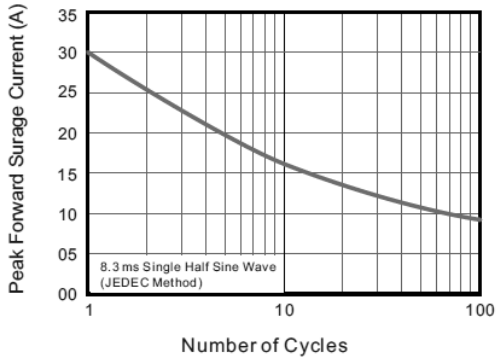


Fig.7 Typical Reverse Characteristics

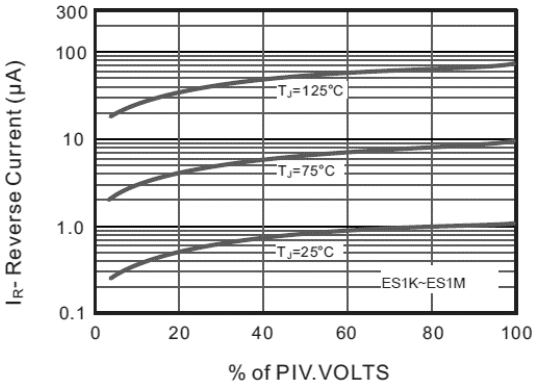


Fig.8 Typical Forward Characteristics

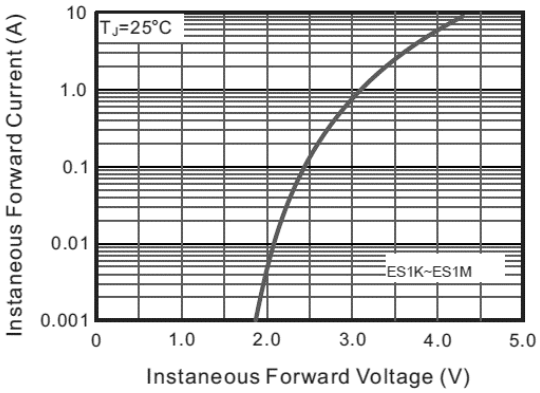


Fig.9 Typical Junction Capacitance

