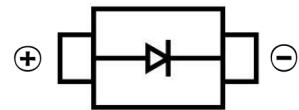


SUPER FAST RECOVERY RECTIFIER DIODE
FEATURES

- Glass Passivated Die Construction
- Low reverse leakage current
- Low forward voltage drop
- High current capability
- Super fast recovery time
- Surface Mount device


SMA

MECHANICAL DATA

- Case: SMA(DO-214AC)
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.065 grams (approximate)
- Marking:ES2D

MAXIMUM RATINGS AND CHARACTERISTICS(T_A = 25°C unless otherwise noted)

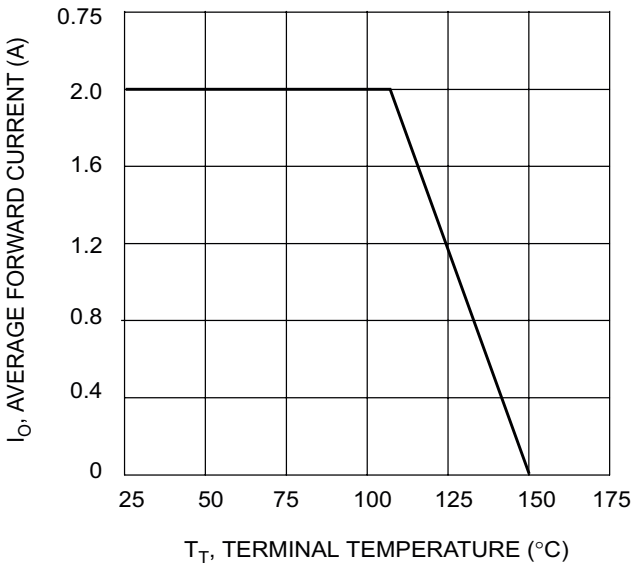
| Parameter | Symbol | Value | Unit |
|--|---------------------|-----------|------|
| Maximum Recurrent Peak Reverse Voltage | V _{RRM} | 200 | V |
| DC Blocking Reverse Voltage | V _R | 200 | V |
| RMS Reverse Voltage | V _{R(RMS)} | 140 | V |
| Maximum Average Forward Rectified Current | I _F | 2 | A |
| Non-Repetitive Peak Forward Surge Current @t=8.3ms | I _{FSM} | 50 | A |
| Thermal Resistance From Junction To Ambient | R _{θJA} | 25 | °C/W |
| Reverse Recovery Time(@I _F =0.5A, I _R =1.0A, I _{RR} =0.25A) | t _{rr} | 35 | nS |
| Junction Temperature | T _J | -55 ~+150 | °C |
| Storage Temperature | T _{STG} | -55 ~+150 | °C |

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

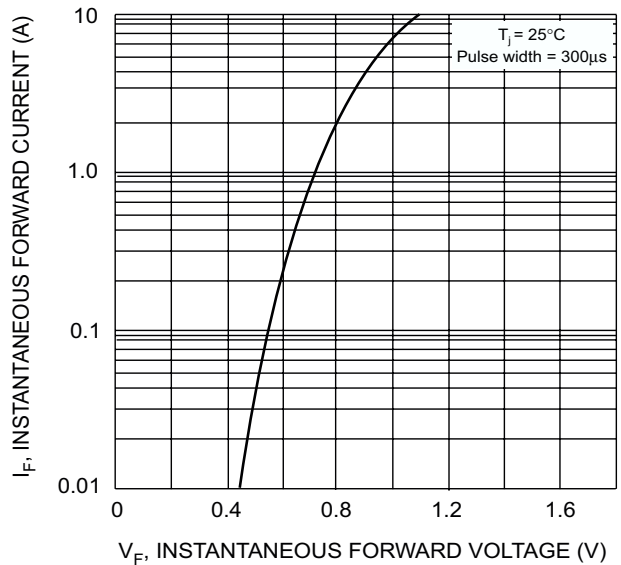
| Parameter | Symbol | Min | Typ | Max | Unit | Conditions |
|--|----------------|-----|-----|------|------|---------------------------|
| Forward voltage | V _F | | | 0.95 | V | I _F =2A |
| Reverse current @T _A =25°C | I _R | | | 5 | μA | V _R =200V |
| Reverse current @T _A =125°C | I _R | | | 350 | μA | V _R =200V |
| Diode capacitance | C _D | | 25 | | pF | V _R =4V,f=1MHz |

SUPER FAST RECOVERY RECTIFIER DIODE

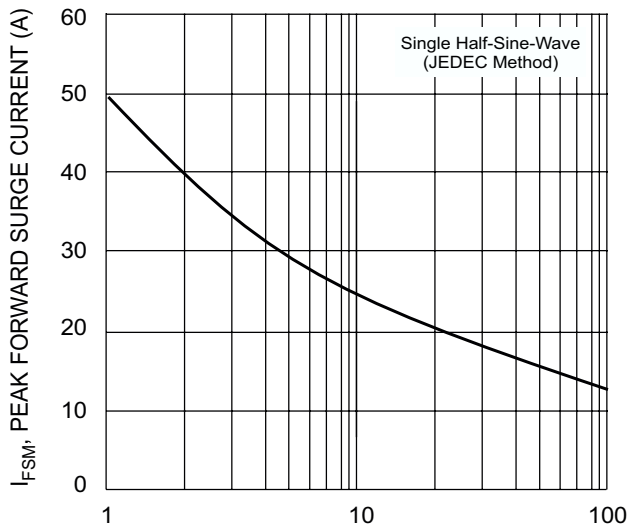
Typical Characteristics



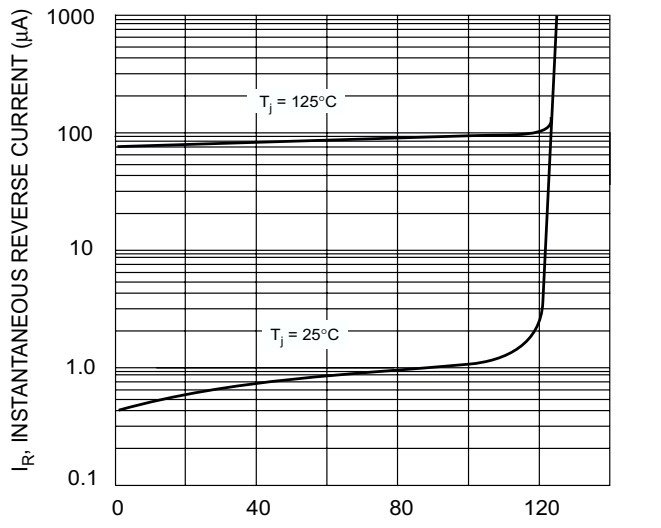
T_j , TERMINAL TEMPERATURE (°C)
Fig. 1 Forward Current Derating Curve



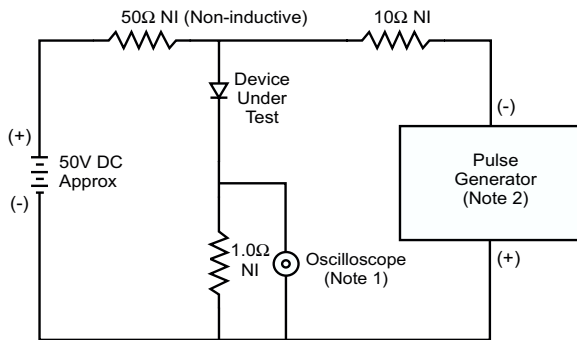
V_f , INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 2 Typical Forward Characteristics



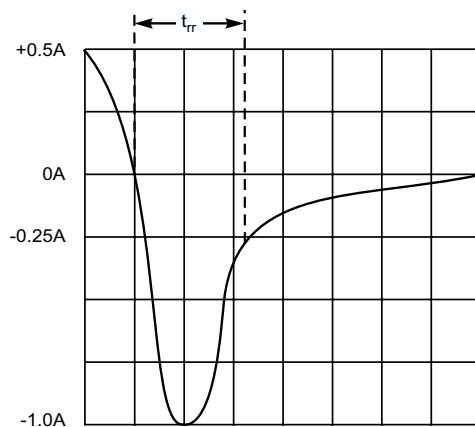
NUMBER OF CYCLES AT 60Hz
Fig. 3 Surge Current Derating Curve



PERCENT OF RATED PEAK REVERSE VOLTAGE (%)
Fig. 4 Typical Reverse Characteristics



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

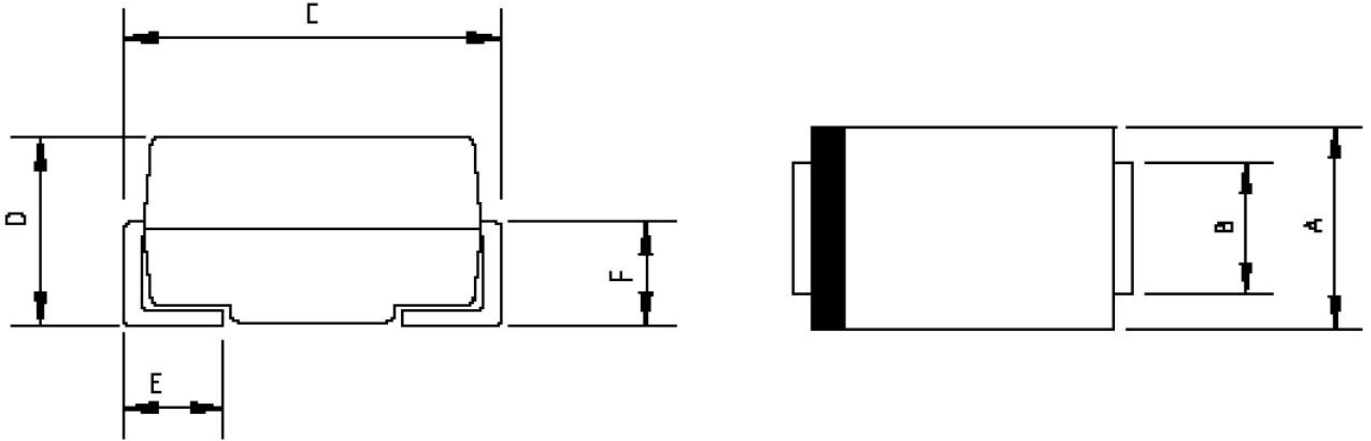


Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

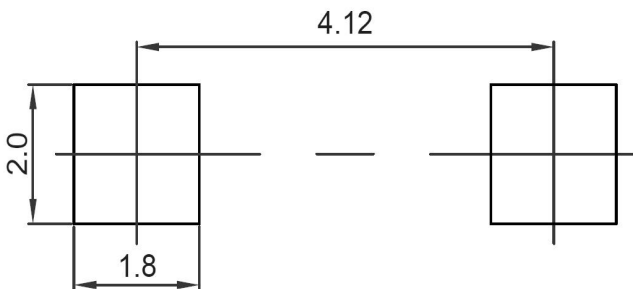
SUPER FAST RECOVERY RECTIFIER DIODE

SMA Package Outline Dimensions



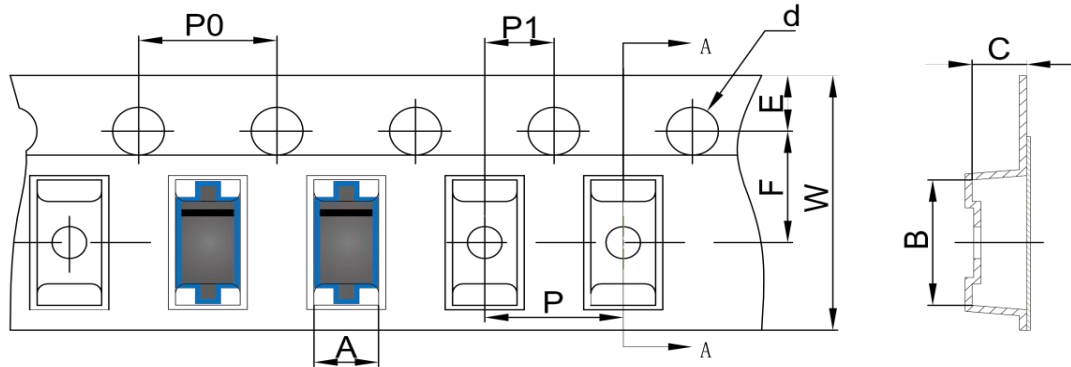
| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 2.20 | 2.80 | 0.086 | 0.110 |
| B | 1.30 | 1.70 | 0.051 | 0.067 |
| C | 4.70 | 5.30 | 0.185 | 0.209 |
| D | 1.70 | 2.55 | 0.067 | 0.100 |
| E | 0.90 | 1.50 | 0.035 | 0.059 |
| F | 0.90 | 1.50 | 0.035 | 0.059 |

SMA Suggested Pad Layout

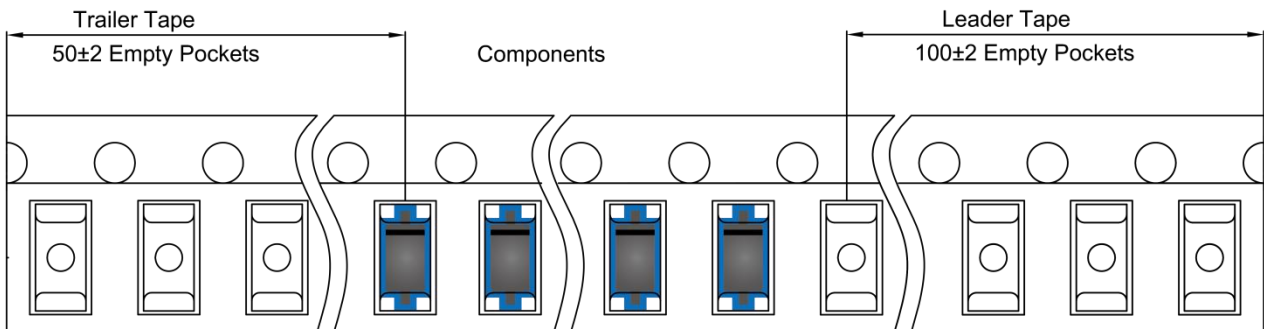
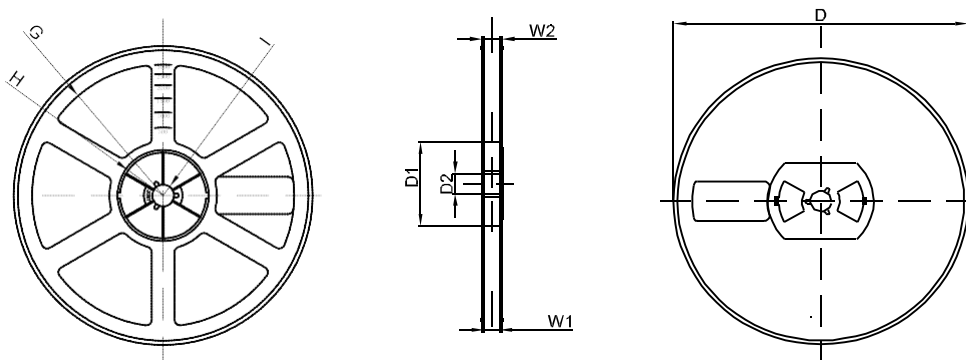


Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

SUPER FAST RECOVERY RECTIFIER DIODE
SMA Tape and Reel
SMA Embossed Carrier Tape


| DIMENSIONS ARE IN MILLIMETER | | | | | | | | | | |
|------------------------------|------|------|------|-------|------|------|------|------|------|-------|
| TYPE | A | B | C | d | E | F | P0 | P | P1 | W |
| SMA | 2.89 | 5.35 | 2.68 | Ø1.50 | 1.75 | 5.50 | 4.00 | 4.00 | 2.00 | 12.00 |
| TOLERANCE | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 |

SMA Tape Leader and Trailer

SMA Reel


| DIMENSIONS ARE IN MILLIMETER | | | | | | | | |
|------------------------------|------|-------|-------|-----|--------|-------|-------|-------|
| REEL OPTION | D | D1 | D2 | G | H | I | W1 | W2 |
| 7" DIA | Ø178 | 54.40 | 13.00 | R78 | R25.60 | R6.50 | 12.40 | 17.60 |
| TOLERANCE | ±2 | ±1 | ±1 | ±1 | ±1 | ±1 | ±1 | ±1 |