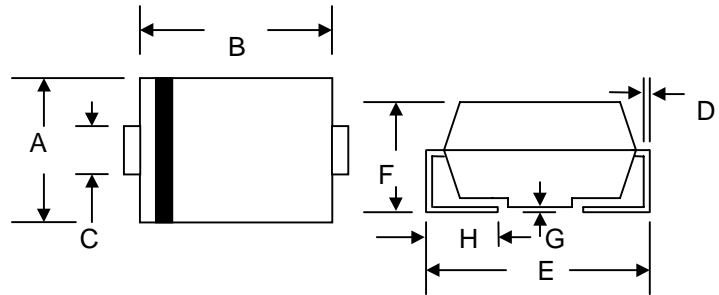


1.0A SURFACE MOUNT SUPER FAST RECTIFIER

Features

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Voltage Drop, High Efficiency
- Surge Overload Rating to 30A Peak
- Low Power Loss
- Super-Fast Recovery Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O



Mechanical Data

- Case: Low Profile Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.064 grams (approx.)

| SMA/DO-214AC | | |
|----------------------|-------|-------|
| Dim | Min | Max |
| A | 2.50 | 2.90 |
| B | 4.00 | 4.60 |
| C | 1.40 | 1.60 |
| D | 0.152 | 0.305 |
| E | 4.80 | 5.28 |
| F | 2.00 | 2.44 |
| G | 0.051 | 0.203 |
| H | 0.76 | 1.52 |
| All Dimensions in mm | | |

Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | ES1A | ES1B | ES1C | ES1D | ES1E | ES1G | ES1J | Unit |
|-----------------------------------------------------------------------------------------------------------------------|-----------------|-------------|------|------|------|------|------|------|------------------|
| Peak Repetitive Reverse Voltage | V_{RRM} | | | | | | | | |
| Working Peak Reverse Voltage | V_{RWM} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| DC Blocking Voltage | V_R | | | | | | | | |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 35 | 70 | 105 | 140 | 210 | 280 | 420 | V |
| Average Rectified Output Current @ $T_L = 120^\circ\text{C}$ | 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 @ $I_F = 1.0\text{A}$ | V_{FM} | 0.95 | | | | 1.25 | | 1.7 | V |
| Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$ | I_{RM} | | | | | 5.0 | | 500 | μA |
| Reverse Recovery Time (Note 1) | t_{rr} | | | | | 35 | | | nS |
| Typical Junction Capacitance (Note 2) | C_j | | | | | 10 | | | pF |
| Typical Thermal Resistance (Note 3) | $R_{\theta JL}$ | | | | | 35 | | | K/W |
| Operating and Storage Temperature Range | T_j, T_{STG} | -65 to +150 | | | | | | | $^\circ\text{C}$ |

Note: 1. Measured with $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$,
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.
 3. Mounted on P.C. Board with 8.0mm² land area.

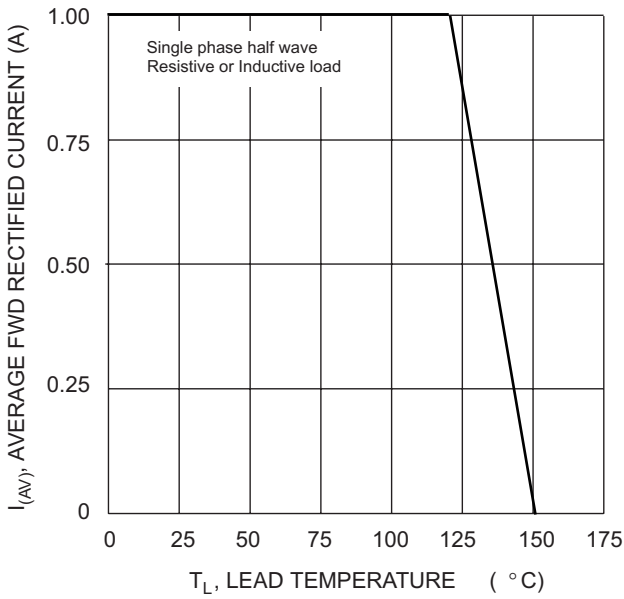


Fig. 1 Forward Current Derating Curve

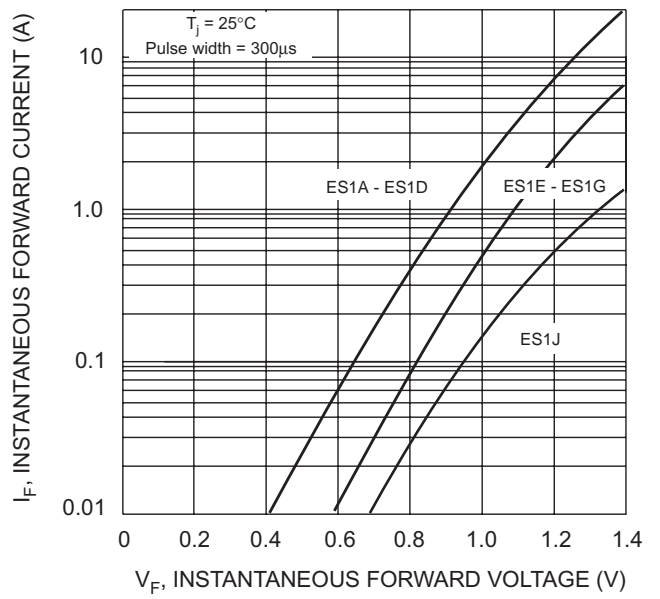


Fig. 2 Typical Forward Characteristics

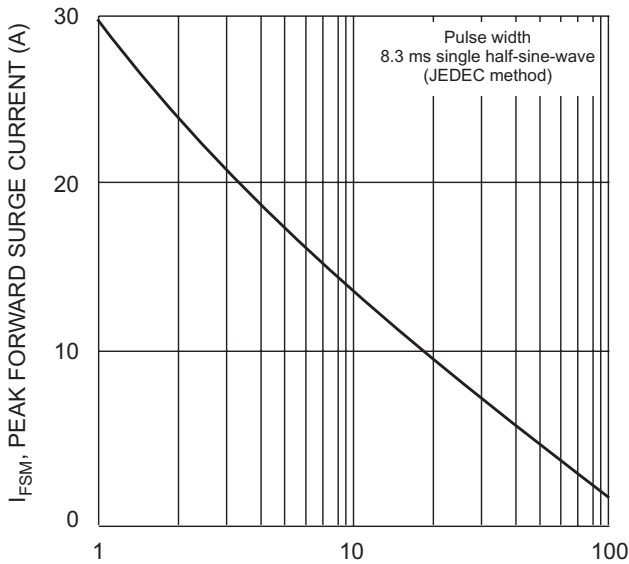


Fig. 3 Peak Forward Surge Current

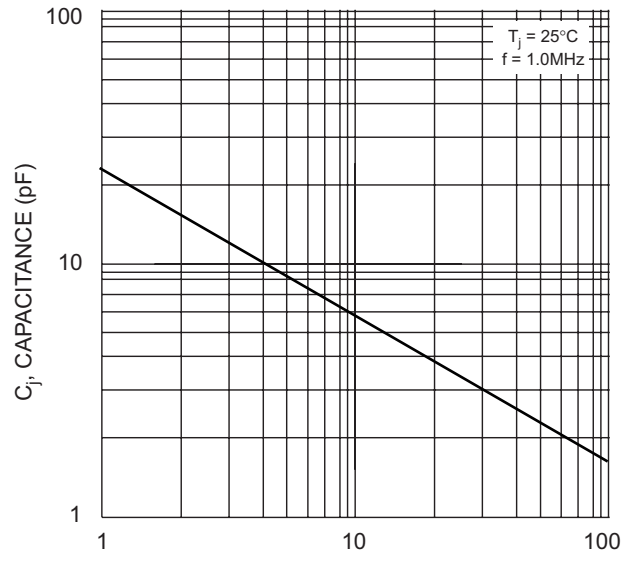
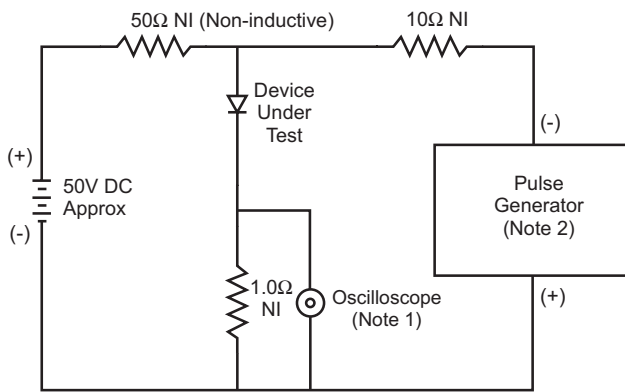
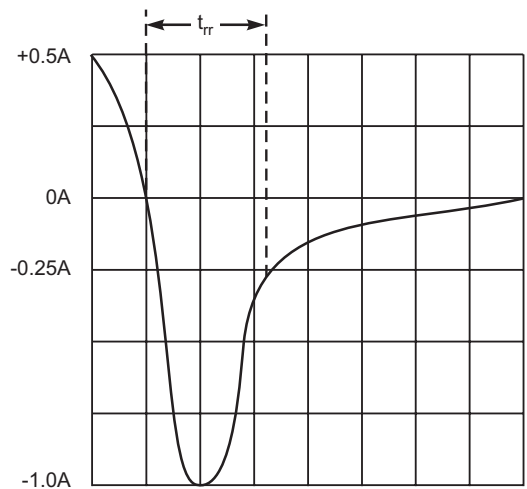


Fig. 4 Typical Junction Capacitance



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



Set time base for 5/10ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

ORDERING INFORMATION

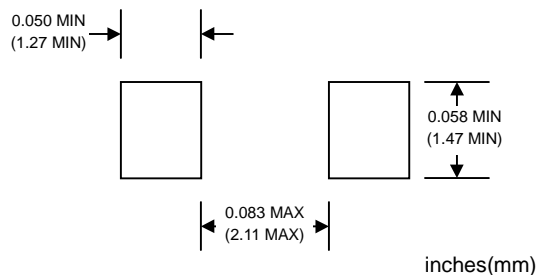
| Product No.♦ | Package Type | Shipping Quantity |
|----------------|--------------|-------------------|
| ES1A-T1 | SMA | 1800/Tape & Reel |
| ES1A-T3 | SMA | 7500/Tape & Reel |
| ES1B-T1 | SMA | 1800/Tape & Reel |
| ES1B-T3 | SMA | 7500/Tape & Reel |
| ES1C-T1 | SMA | 1800/Tape & Reel |
| ES1C-T3 | SMA | 7500/Tape & Reel |
| ES1D-T1 | SMA | 1800/Tape & Reel |
| ES1D-T3 | SMA | 7500/Tape & Reel |
| ES1E-T1 | SMA | 1800/Tape & Reel |
| ES1E-T3 | SMA | 7500/Tape & Reel |
| ES1G-T1 | SMA | 1800/Tape & Reel |
| ES1G-T3 | SMA | 7500/Tape & Reel |
| ES1J-T1 | SMA | 1800/Tape & Reel |
| ES1J-T3 | SMA | 7500/Tape & Reel |

Products listed in **bold** are WTE Preferred devices.

♦T1 suffix refers to a 7" reel. T3 suffix refers to a 13" reel.

Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.

RECOMMENDED FOOTPRINT



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