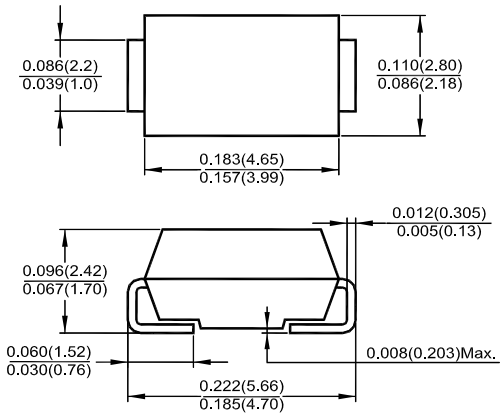
# ES1AD THRU ES1MD

## 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 | ES1AD | ES1BD | ES1CD | ES1DD | ES1ED | ES1GD | ES1JD | ES1KD | ES1MD | 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 at $T_J$ = 25℃<br>at Rated DC Blocking Voltage at $T_J$ = 125℃ | $I_R$ | 5<br>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 | $R_{\theta JL}$<br>$R_{\theta JA}$ | 35<br>85 | | | | | | | | | ℃/W |
| Operating Junction and Storage Temperature Range | $T_j$ ,$T_{stg}$ | - 55 to + 150 | | | | | | | | | ℃ |

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

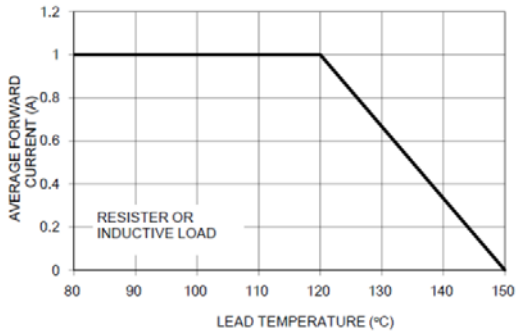



FIG. 2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

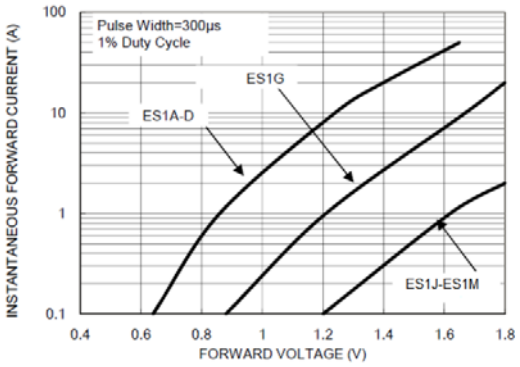



FIG. 3 MAXIMUM NON-REPETITIVE FORWARD PEAK SURGE CURRENT

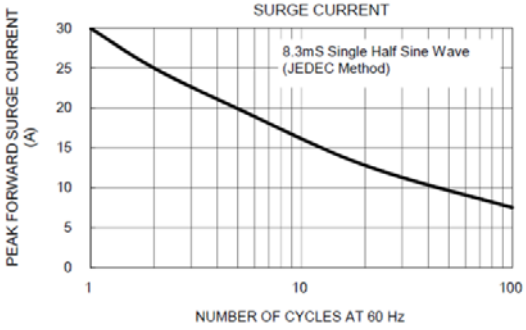



FIG. 4 TYPICAL REVERSE CHARACTERISTICS

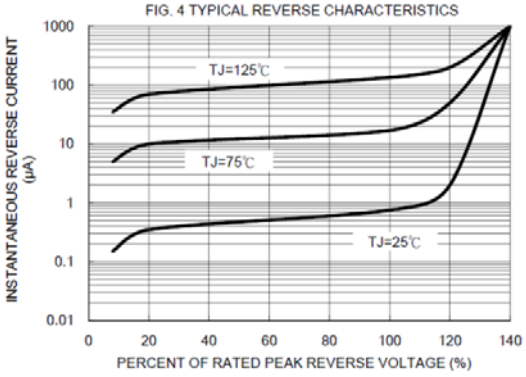
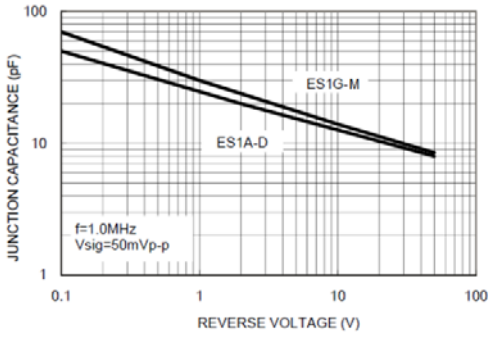



FIG. 5 TYPICAL JUNCTION CAPACITANCE



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