

Features

- ♦ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ♦ Metal silicon junction, majority carrier conduction
- ♦ Low power loss, high efficiency
- ♦ High forward surge current capability
- ♦ High temperature soldering guaranteed: 260°C/10 seconds
- ♦ Compliant to RoHS Directive 2011/65/EU
- ♦ Compliant to Halogen-free



Mechanical data

- ♦ **Case**: JEDEC PowerDI-123 molded plastic body
- ♦ **Terminals**: Plated axial leads, solderable per MIL-STD-750, Method 2026
- ♦ **Polarity**: Color band denotes cathode end
- ♦ **Mounting Position**: Any

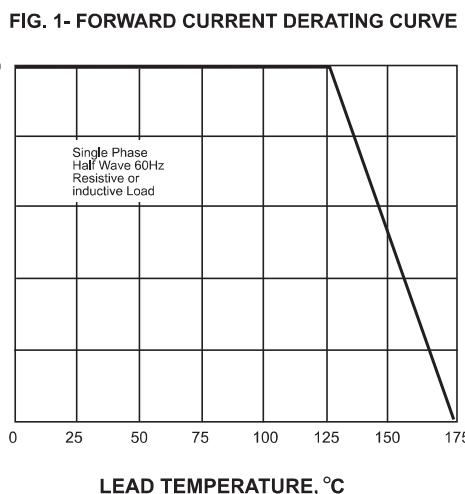
Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOLS | DFLS1150-7-FS | UNITS |
|--|-----------------|---------------|-------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 150 | V |
| Maximum RMS voltage | V_{RMS} | 106 | V |
| Maximum DC blocking voltage | V_{DC} | 150 | V |
| Maximum average forward rectified current at T_L (see fig.1) | $I_{(AV)}$ | 1.0 | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 50 | A |
| Maximum instantaneous forward voltage at 1.0A | V_F | 0.82 | V |
| Maximum instantaneous forward voltage at 2.0A | V_F | 0.95 | V |
| Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage | I_R | 5 | uA |
| Typical junction capacitance (NOTE 1) | C_J | 30 | pF |
| Typical thermal resistance (NOTE 2) | $R_{\theta JA}$ | 85 | °C/W |
| Operating junction temperature range | T_J | -55 to +175 | °C |
| Storage temperature range | T_{STG} | -55 to +175 | °C |

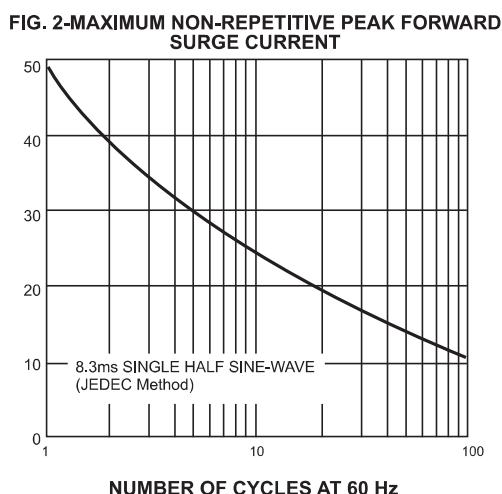
Note: 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
 2. P.C.B. mounted with 2.0x2.0" (5.0x5.0cm) copper pad areas

Rating and characteristic curves

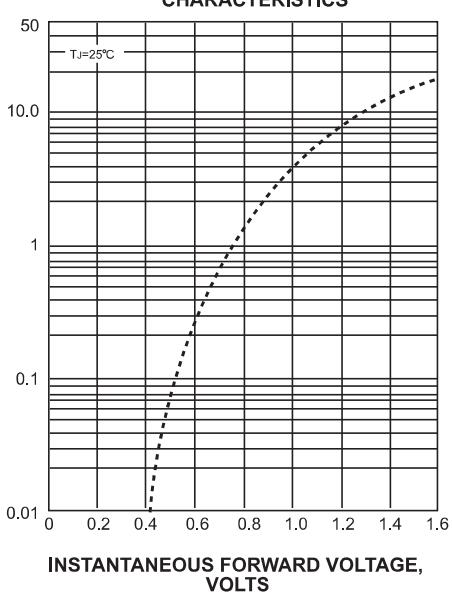
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES



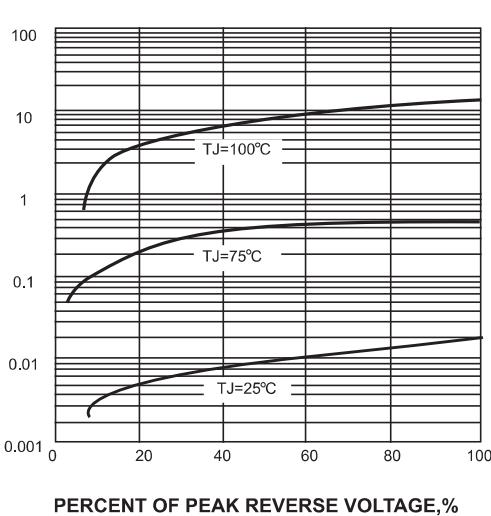
PEAK FORWARD SURGE CURRENT, AMPERES



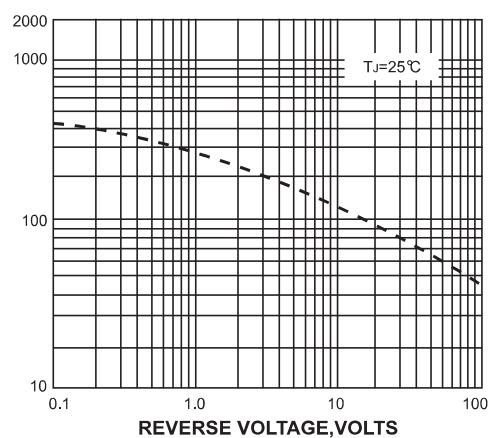
INSTANTANEOUS FORWARD CURRENT, AMPERES



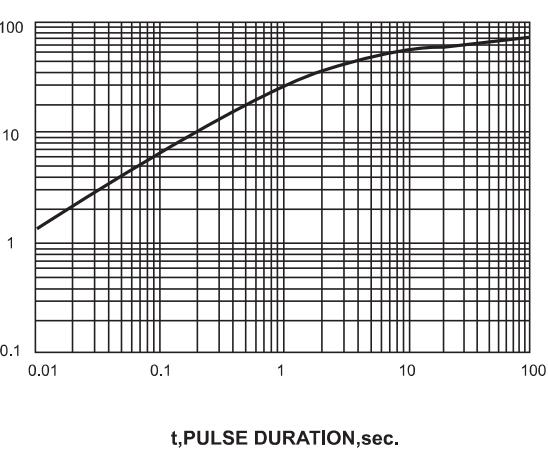
INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES



JUNCTION CAPACITANCE, pF



TRANSIENT THERMAL IMPEDANCE, °C/W



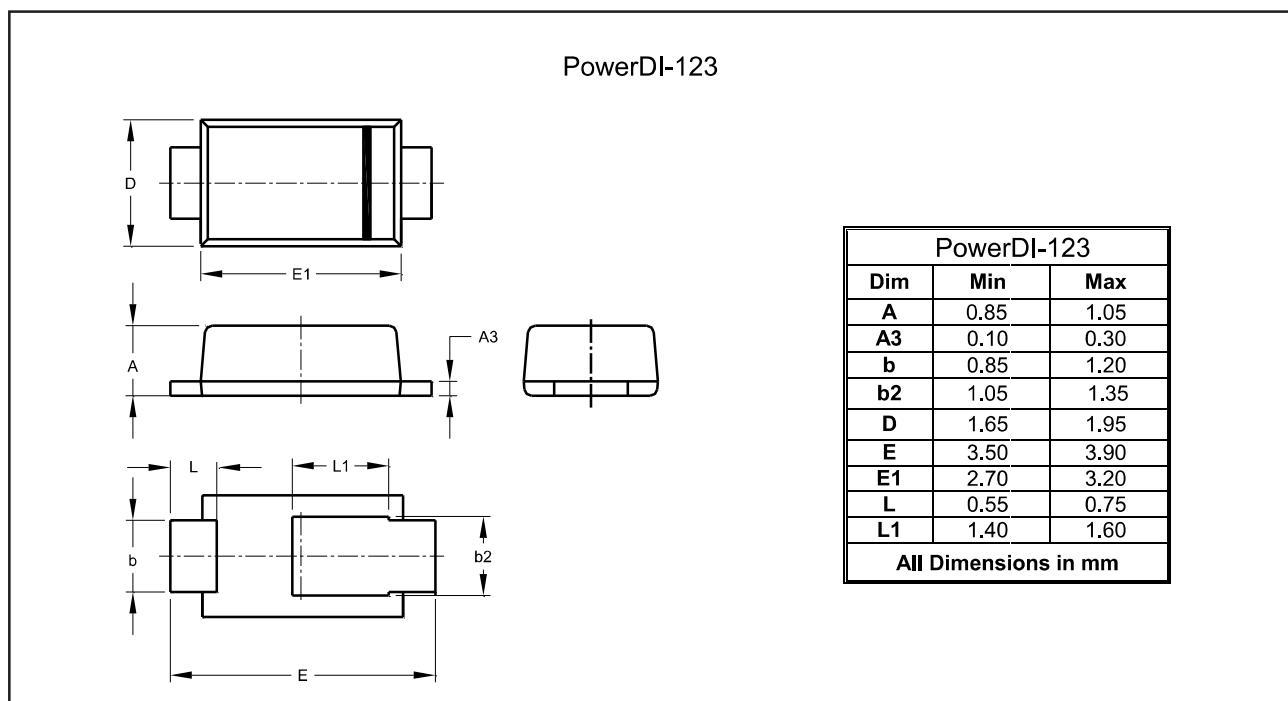
Pinning information

| Pin | Simplified outline | Symbol |
|----------------------------|---|---|
| Pin1 cathode Pin2 anode |  |  |

Marking

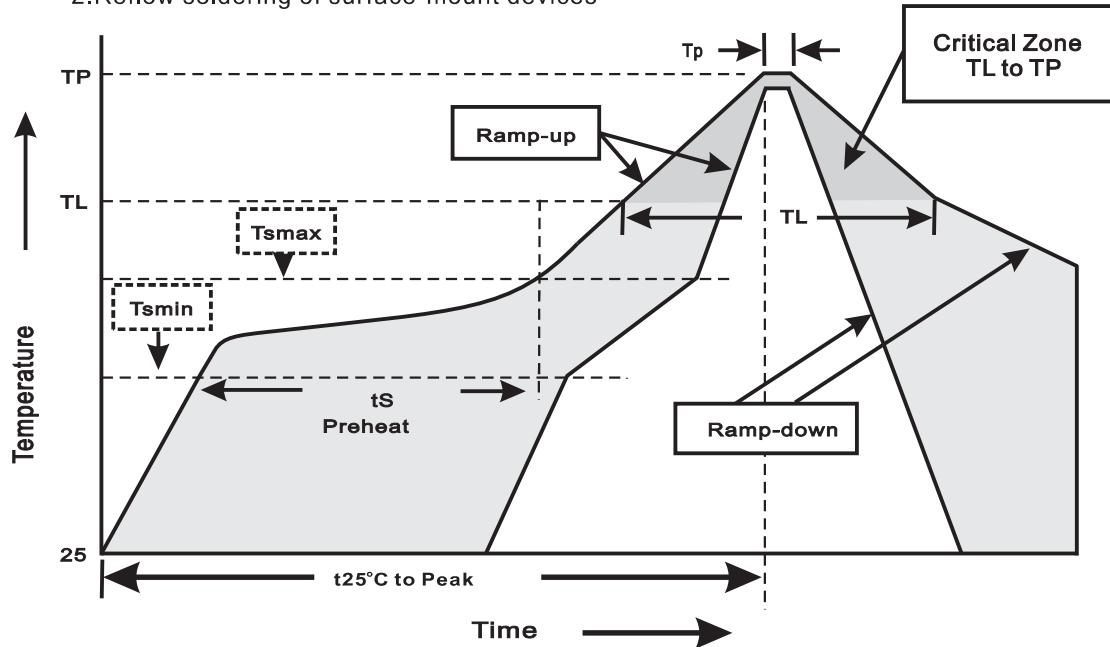
| Type number | Marking code |
|---------------|--------------|
| DFLS1150-7-FS | F07 |

Package outline



Suggested thermal profiles for soldering processes

1. Storage environment: Temperature=5°C~40°C Humidity=55%±25%
2. Reflow soldering of surface-mount devices



3. Reflow soldering

| Profile Feature | Soldering Condition |
|---|-----------------------------|
| Average ramp-up rate(T_L to T_P) | <3°C/sec |
| Preheat -Temperature Min(T_{smin}) -Temperature Max(T_{smax}) -Time(min to max)(t_s) | 150°C 200°C 60~120sec |
| T_{smax} to T_L -Ramp-upRate | <3°C/sec |
| Time maintained above: -Temperature(T_L) -Time(t_L) | 217°C 60~260sec |
| Peak Temperature(T_P) | 255°C-0/+5°C |
| Time within 5°C of actual Peak Temperature(t_P) | 10~30sec |
| Ramp-down Rate | <6°C/sec |
| Time 25°C to Peak Temperature | <6minutes |