

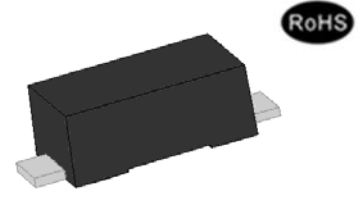


PxxxxDM TSS

Rev.1.3

DESCRIPTION

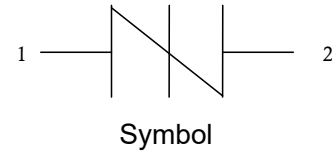
PxxxxDM series are a type of semiconductor component. They are designed to protect base band equipment from damaging overvoltage transients.



SOD-123FL

FEATURES

- ✧ Excellent capability of absorbing transient surge.
- ✧ Quick response to surge voltage (ns Level).
- ✧ Eliminates overvoltage caused by fast rising transients.
- ✧ Moisture sensitivity level: Level 1.
- ✧ IEC61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact).
- ✧ Non degenerative.

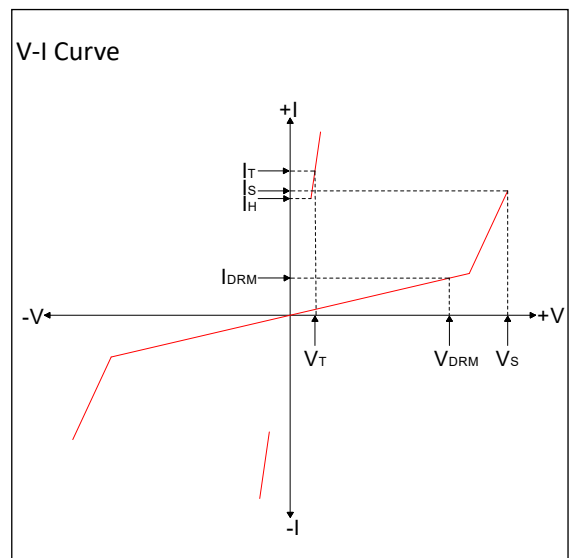


ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$, RH=45%-75%, unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|-----------|-------------|------------------|
| Storage temperature range | T_{STG} | -60 to +150 | $^\circ\text{C}$ |
| Operating junction temperature range | T_J | -40 to +125 | $^\circ\text{C}$ |
| Repetitive peak pulse current@10/1000 μs | I_{PP} | 35 | A |

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$)

| Symbol | Parameter |
|-----------|------------------------|
| V_{DRM} | Peak off-state voltage |
| I_{DRM} | Off-state current |
| V_S | Switching voltage |
| I_S | Switching current |
| V_T | On-state voltage |
| I_T | On-state current |
| I_H | Holding current |
| C_o | Off-state capacitance |



MARKING



P35DM : Device Marking Code

ELECTRICAL CHARACTERISTICS (T_A=25°C, continued)

| Part Number | I _{DRM} @V _{DRM} | | V _S ^① @I _S | | V _T @I _T | | I _H | Co ^② | Marking |
|-------------|------------------------------------|-----|---|-----|--------------------------------|-----|----------------|-----------------|---------|
| | μA | V | V | mA | V | A | mA | pF | |
| | max | | max | max | max | max | | max | |
| P0080DM | 5 | 6 | 15 | 800 | 4 | 2.2 | 10(min) | 10 | P8AC |
| P0300DM | 5 | 25 | 40 | 800 | 4 | 2.2 | 50(typ) | 60 | P03DA |
| P3500DM | 5 | 280 | 400 | 800 | 4 | 2.2 | 10(min) | 50 | P35DM |

①V_S is measured at 100kV/s

②Off-state capacitance is measured in V_{DC}=2V, V_{RMS}=1V, f=1MHz

SURGE RATINGS

| Series | I _{PP} (A) min | | | |
|--------|-------------------------|--------|----------|-----------|
| | 2/10μs | 8/20μs | 10/360μs | 10/1000μs |
| M | 100 | 90 | 50 | 35 |

ORDERING INFORMATION

| | | | | |
|-------------------------------------|------------------------------|-----------------------------|----------|---|
| P Series code P: SIDAC | 008 Median voltage | 0 0: Bi-direction | D | M Surge ratings:2.0kV(10/700μs) Package type:SOD-123FL |
|-------------------------------------|------------------------------|-----------------------------|----------|---|

SOLDERING PARAMETERS

| | | |
|--|-----------------------------------|---------------------------------|
| Reflow Condition | | Pb-Free assembly (see FIG.2) |
| Pre Heat | -Temperature Min ($T_{s(min)}$) | +150°C |
| | -Temperature Max($T_{s(max)}$) | +200°C |
| | -Time (Min to Max) (t_s) | 60-180 secs. |
| Average ramp up rate (Liquidus Temp (T_L) to peak) | | 3°C/sec. Max |
| $T_{s(max)}$ to T_L - Ramp-up Rate | | 3°C/sec. Max |
| Reflow | -Temperature(T_L) (Liquidus) | +217°C |
| | -Temperature(t_L) | 60-150 secs. |
| Peak Temp (T_p) | | +260(+0/-5)°C |
| Time within 5°C of actual Peak Temp (t_p) | | 30 secs. Max |
| Ramp-down Rate | | 6°C/sec. Max |
| Time 25°C to Peak Temp (T_p) | | 8 min. Max |
| Do not exceed | | +260°C |

FIG.1: $t_r \times t_d$ pulse waveform

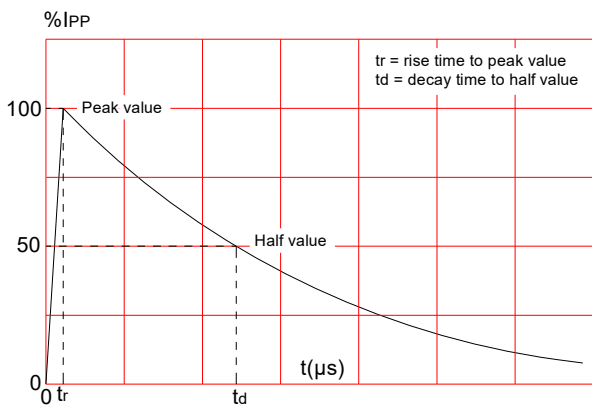


FIG.3: Normalized V_s change vs. junction temperature

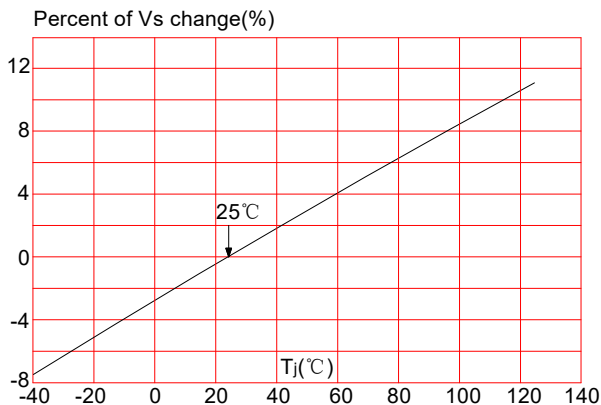


FIG.2: Reflow condition

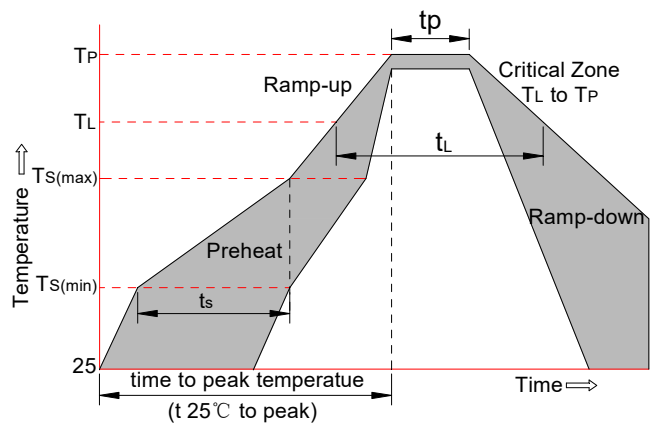
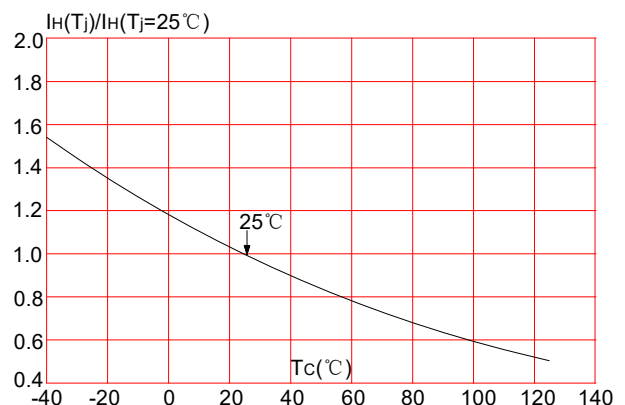
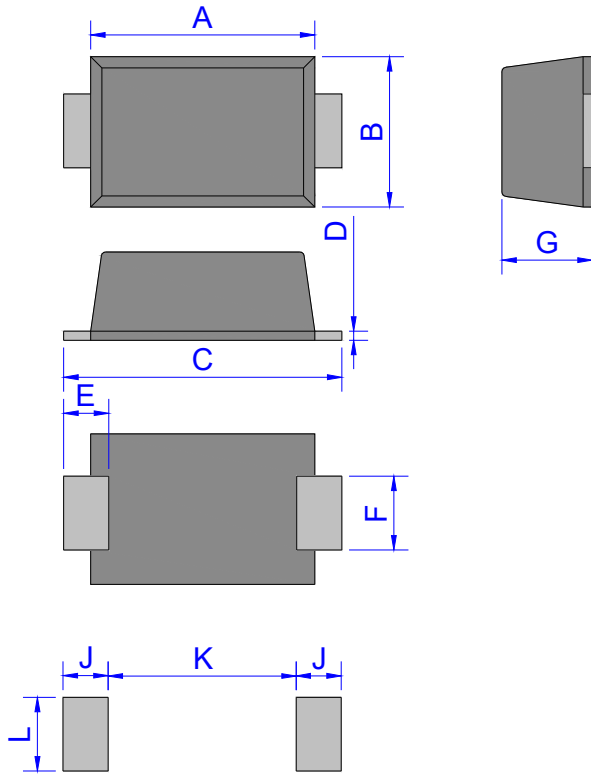


FIG.4: Normalized DC holding current vs. case temperature



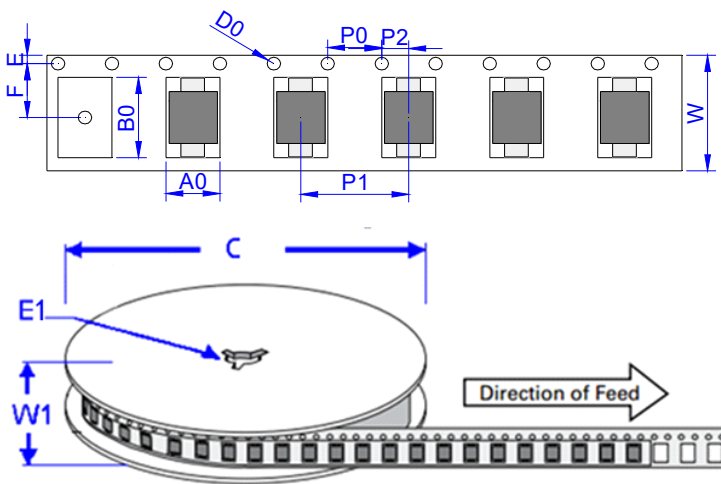
PACKAGE MECHANICAL DATA



SOD-123FL

| Ref. | Dimensions | | | |
|------|-------------|------|--------|-------|
| | Millimeters | | Inches | |
| | Min. | Max. | Min. | Max. |
| A | 2.60 | 3.00 | 0.102 | 0.118 |
| B | 1.60 | 2.00 | 0.063 | 0.079 |
| C | 3.45 | 3.95 | 0.136 | 0.156 |
| D | 0.10 | 0.25 | 0.004 | 0.01 |
| E | 0.3 | 0.9 | 0.012 | 0.035 |
| F | 0.80 | 1.20 | 0.031 | 0.047 |
| G | 0.95 | 1.35 | 0.037 | 0.053 |
| J | 1.30 | | 0.051 | |
| K | | 1.70 | | 0.067 |
| L | 1.30 | | 0.051 | |

TAPE AND REEL SPECIFICATION-SOD-123FL



| Ref. | Dimensions | |
|------|-------------|---------------|
| | Millimeters | Inches |
| A0 | 1.95 ± 0.3 | 0.077 ± 0.012 |
| B0 | 3.95 ± 0.3 | 0.156 ± 0.012 |
| C | 178 | 7.0 |
| D0 | 1.55 ± 0.1 | 0.061 ± 0.004 |
| E | 1.75 ± 0.2 | 0.069 ± 0.008 |
| E1 | 13.3 ± 0.3 | 0.524 ± 0.012 |
| F | 3.50 ± 0.2 | 0.138 ± 0.008 |
| P0 | 4.00 ± 0.2 | 0.157 ± 0.008 |
| P1 | 4.00 ± 0.2 | 0.157 ± 0.008 |
| P2 | 2.00 ± 0.2 | 0.079 ± 0.008 |
| W | 8.0 ± 0.2 | 0.315 ± 0.008 |
| W1 | 11.5 ± 1.0 | 0.453 ± 0.039 |

| PART No. | UNIT WEIGHT (g/PCS) typ. | REEL (PCS) | PER CARTON (PCS) | DESCRIPTION |
|----------|--------------------------|------------|------------------|------------------|
| PxxxxDM | 0.0144 | 3,000 | 150,000 | 7 inch reel pack |


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