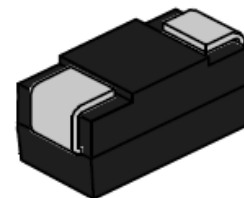




DESCRIPTION:

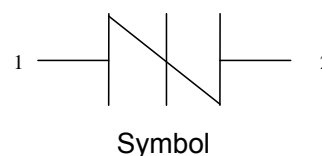
JP15SB thyristors are a type of semiconductor component. They are designed to protect baseband equipment from damaging overvoltage transients. such as modems, telephones, line cards, answering machines, FAX machines, T1/E1, xDSL and more.



SMB

FEATURES:

- ✧ Lower capacitance.
- ✧ 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) ±30kV (air), ±30kV (contact).
- ✧ Non degenerative.

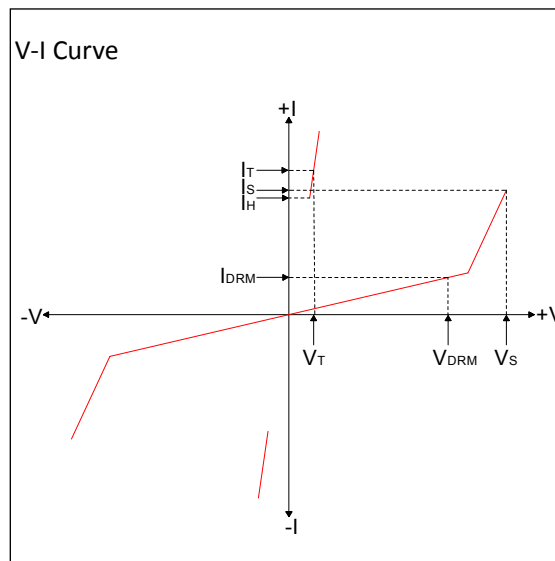


ABSOLUTE MAXIMUM RATINGS (T_A=25°C, RH=45%-75%, unless otherwise noted)

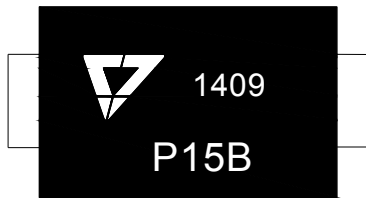
| Parameter | Symbol | Value | Unit |
|--------------------------------------|------------------|-------------|------|
| Storage temperature range | T _{STG} | -60 to +150 | °C |
| Operating junction temperature range | T _J | -40 to +150 | °C |
| Peak pulse current@10/1000μs | I _{PP} | 80 | A |

ELECTRICAL CHARACTERISTICS (T_A=25°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



P15B : Device Marking Code
 1409: In ninth week, 2014

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 | min | max | |
| JP15SB | 1 | 140 | 180 | 800 | 4 | 2.2 | 120 | 50 | P15B |

① V_S is measured at 100kV/s

② Off-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 |
| B | 250 | 250 | 125 | 80 |

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) (ts) | 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: tr × td pulse waveform

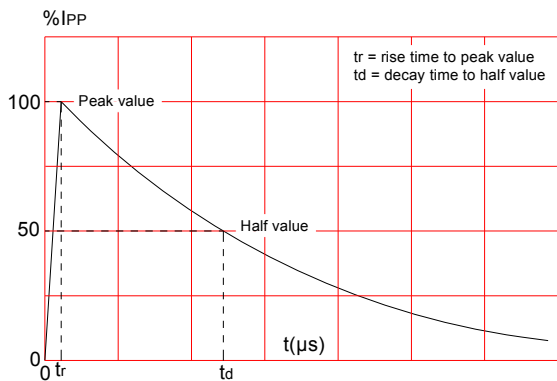


FIG.3: Normalized Vs change vs. junction temperature

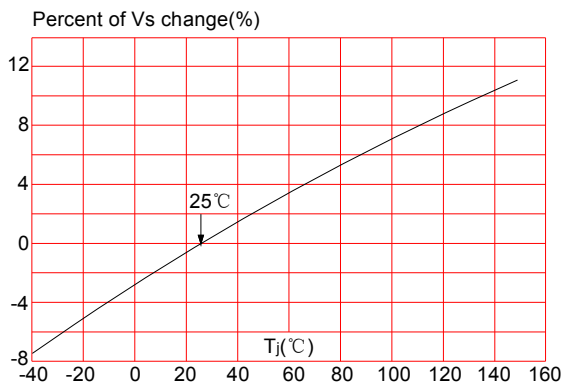


FIG.2: Reflow condition

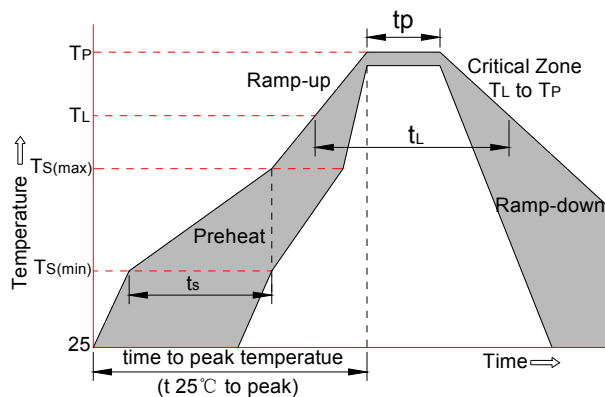
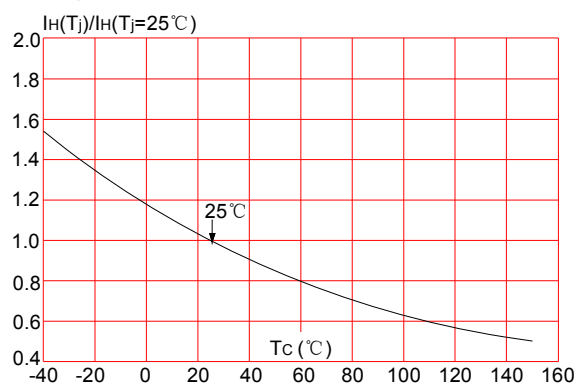
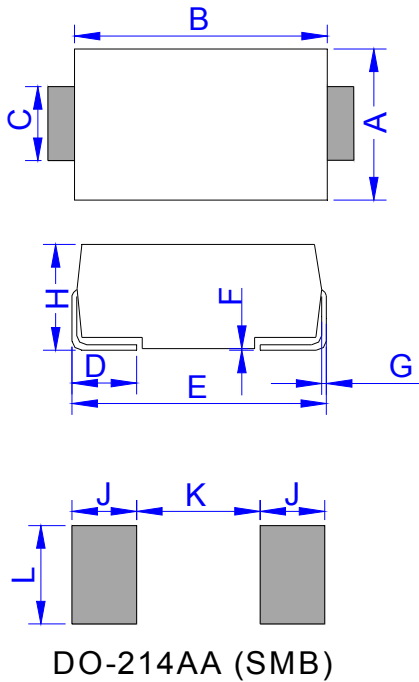


FIG.4: Normalized DC holding current vs. case temperature

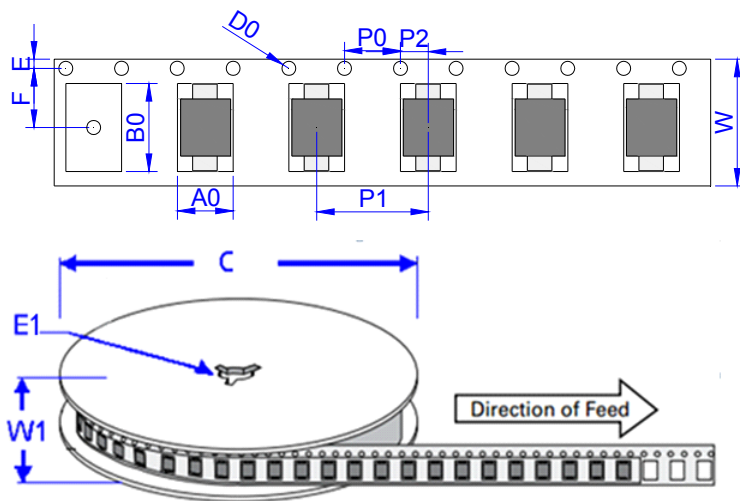


PACKAGE MECHANICAL DATA



| Ref. | Dimensions | | | |
|------|-------------|-------|--------|-------|
| | Millimeters | | Inches | |
| | Min. | Max. | Min. | Max. |
| A | 3.30 | 3.94 | 0.130 | 0.155 |
| B | 4.30 | 4.80 | 0.169 | 0.189 |
| C | 1.90 | 2.20 | 0.075 | 0.087 |
| D | 0.95 | 1.52 | 0.037 | 0.060 |
| E | 5.20 | 5.60 | 0.205 | 0.220 |
| F | 0.051 | 0.203 | 0.002 | 0.008 |
| G | 0.15 | 0.31 | 0.006 | 0.012 |
| H | 2.10 | 2.40 | 0.083 | 0.094 |
| J | 2.20 | | 0.087 | |
| K | | 2.60 | | 0.102 |
| L | 2.30 | | 0.091 | |

TAPE AND REEL SPECIFICATION-SMB



| Ref. | Dimensions | |
|------|-------------|----------------|
| | Millimeters | Inches |
| A0 | 3.76 ± 0.3 | 0.148 ± 0.012 |
| B0 | 5.69 ± 0.3 | 0.224 ± 0.012 |
| C | 330.0 | 13.0 |
| 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 | 5.5 ± 0.2 | 0.217 ± 0.008 |
| P0 | 4.00 ± 0.2 | 0.157 ± 0.008 |
| P1 | 8.00 ± 0.2 | 0.3145 ± 0.008 |
| P2 | 2.00 ± 0.2 | 0.079 ± 0.008 |
| W | 12.0 ± 0.2 | 0.472 ± 0.008 |
| W1 | 15.7 ± 2.0 | 0.618 ± 0.079 |


| PART No. | UNIT WEIGHT (g/PCS) typ. | REEL (PCS) | PER CARTON (PCS) | DESCRIPTION |
|----------|--------------------------|------------|------------------|-------------------|
| JP15SB | 0.098 | 3,000 | 48,000 | 13 inch reel pack |

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