



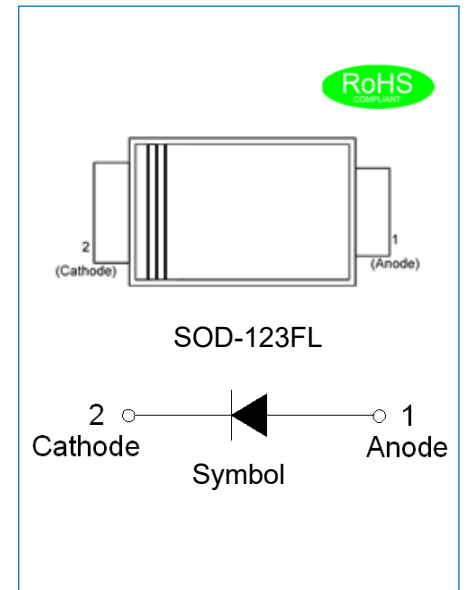
JSPI140A

1A Schottky Barrier Rectifier

Rev.1.4

DESCRIPTION

- ✧ Plastic package has underwriters laboratories flammability classification 94V-0
- ✧ For surface mounted applications in order to optimize board space
- ✧ Lead free in compliance with EU RoHS 2011/65/EU directive
- ✧ Ultra low forward voltage drop
- ✧ Low power losses, high efficiency operation
- ✧ High current capability and surge capability
- ✧ Low thermal resistance package



MECHANICAL DATA

- ✧ Case: SOD-123FL molded plastic
- ✧ Terminals: Solder plated, solderable per J-STD-002
- ✧ Polarity: Color band denotes cathode end

ABSOLUTE MAXIMUM RATING (Rating at 25°C ambient temperature unless otherwise specified.)

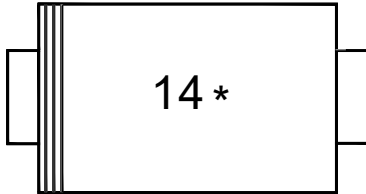
| Parameter | Symbol | JSPI140A | Unit |
|--|-------------|-------------|------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 40 | V |
| Maximum RMS voltage | V_{RMS} | 28 | V |
| Maximum DC blocking voltage | V_{DC} | 40 | V |
| Average forward current | $I_{F(AV)}$ | 1.0 | A |
| Peak forward surge current: 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 30 | A |
| Operating junction temperature range | T_j | -55 to +125 | °C |
| Storage temperature range | T_{stg} | -55 to +150 | °C |

ELECTRICAL CHARACTERISTICS (Rating at 25°C ambient temperature unless otherwise specified.)

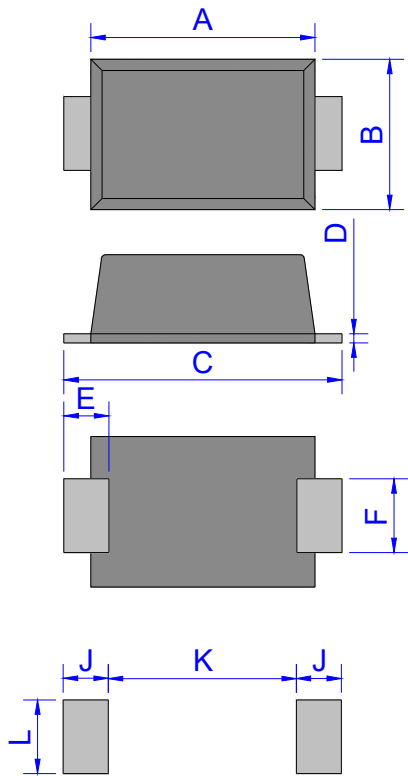
| Parameter | Symbol | Min | Typ | Max | Unit |
|--|-----------------------------|-----|-----|------|------|
| Forward voltage | $I_F=1A$ V_F | | | 0.55 | V |
| Reverse current at rated DC blocking voltage | $T_A=25^\circ C$ I_R | | | 0.5 | mA |
| | $T_A=100^\circ C$ | | | 6 | |
| Junction capacitance | $V_R=4.0V, f=1MHz$ C_J | | 110 | | pF |

THERMAL RESISTANCES

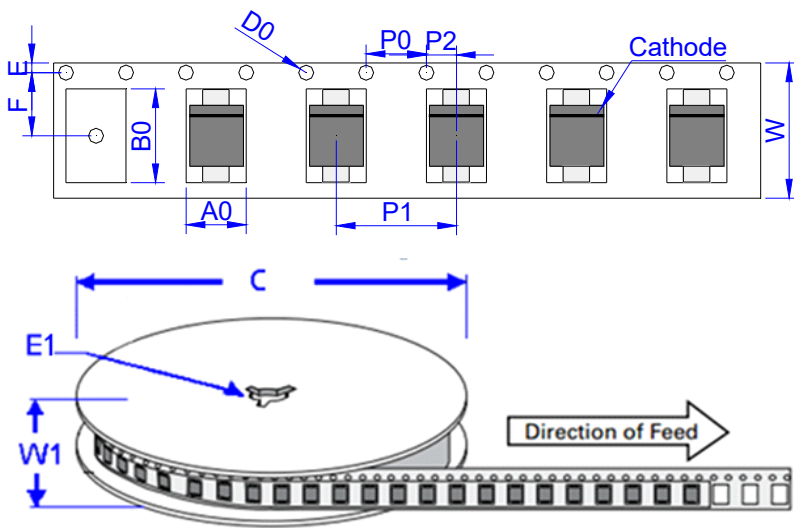
| Symbol | Parameter | JSPI140A | Unit |
|---------------|--|----------|---------------|
| $R_{th(j-a)}$ | Thermal resistances from junction to ambient | 88 | $^{\circ}C/W$ |

MARKING


| | |
|---|----------------|
| 1 | $I_{F(AV)}:1A$ |
| 4 | $V_{RRM}:40V$ |
| * | Chip code |

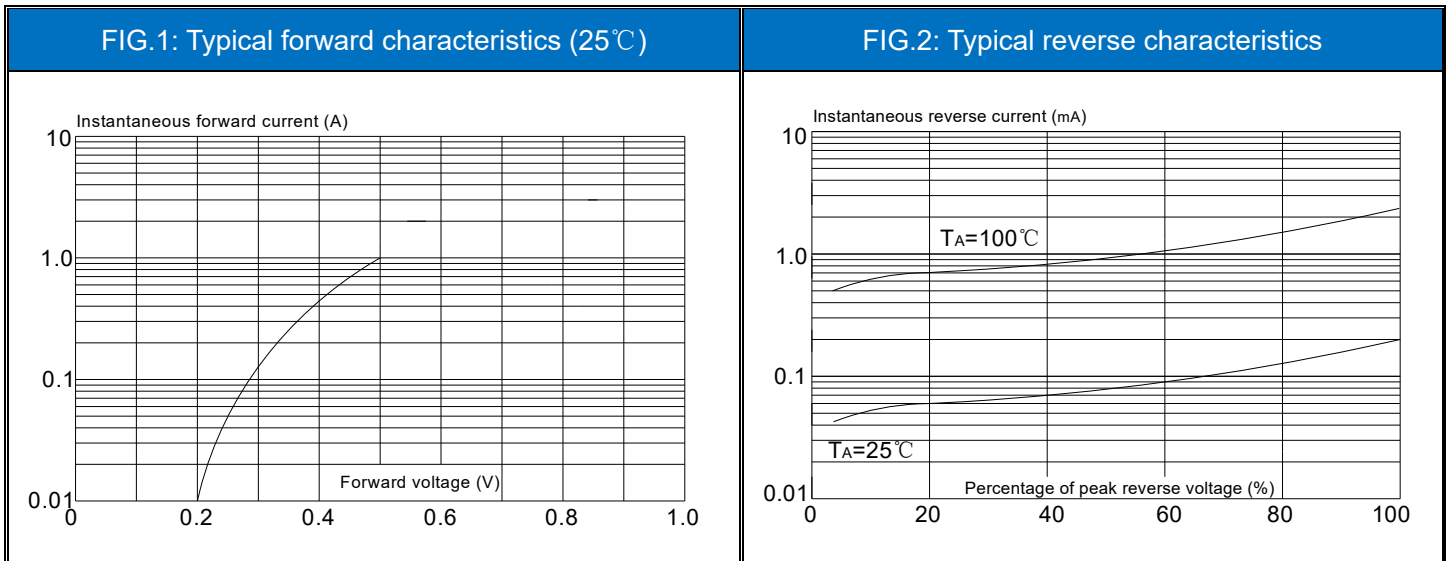
PACKAGE MECHANICAL DATA

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 |
|----------|--------------------------|------------|------------------|------------------|
| JSPI140A | 0.0144 | 3,000 | 150,000 | 7 inch reel pack |

CHARACTERISTICS CURVE




CHARACTERISTICS CURVE

FIG.3: Maximum non-repetitive peak forward surge current

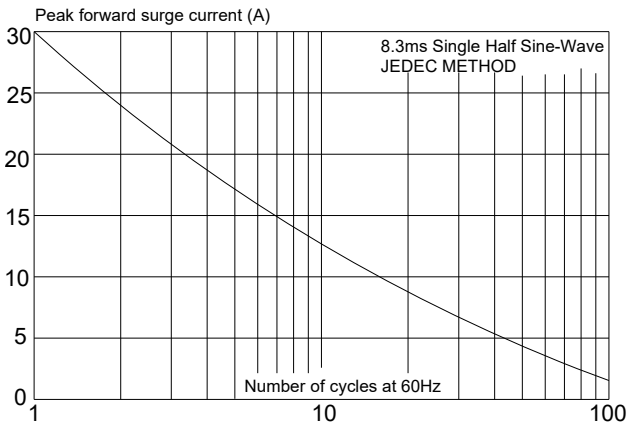


FIG.4: Forward current derating curve

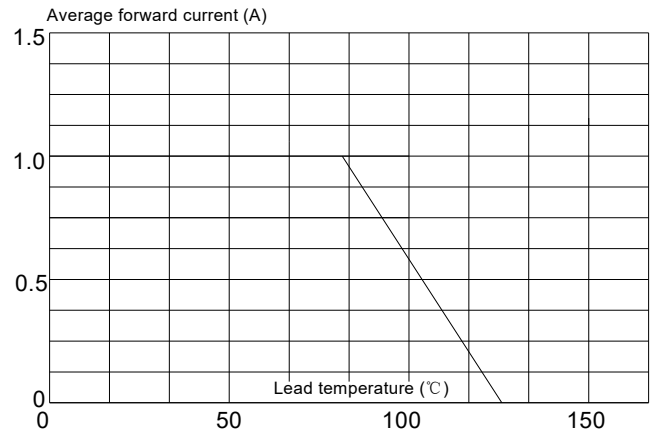


FIG.5: Maximum transient thermal impedance

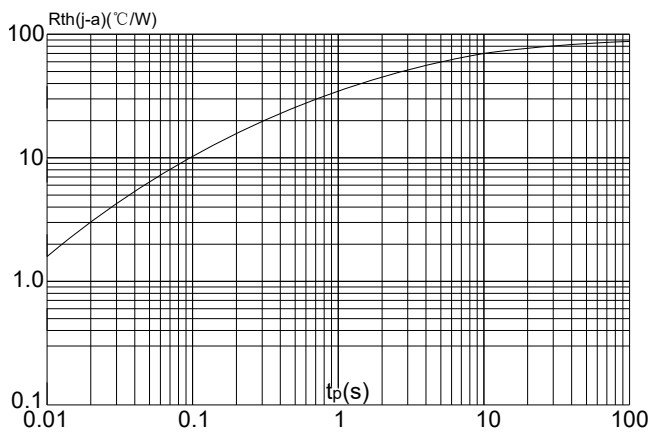
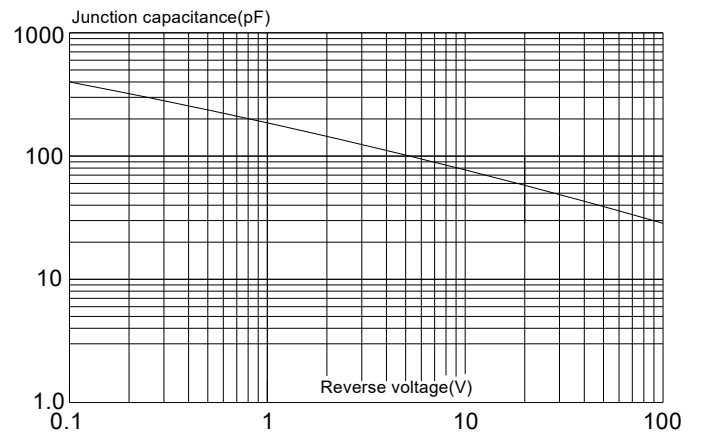


FIG.6: Typical junction capacitance





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