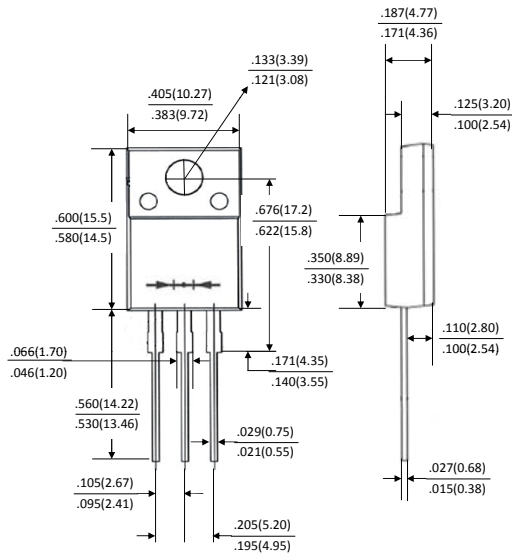




SP4020C thru SP40200C



Schottky Barrier Rectifiers



ITO-220AB

Dimensions in inches and (millimeters)

| Ordering Information | |
|----------------------|--------------|
| Part Number | Remark |
| SP40xxC | General |
| SP40xxC-H | Halogen Free |
| SP40xxC-Q | Automotive |

| PRIMARY CHARACTERISTICS | |
|-------------------------|----------------------------|
| I_F | 40A |
| V_{RRM} | 20~200V |
| I_{FSM} | 250A |
| V_F | 0.60V, 0.75V, 0.85V, 0.95V |
| $T_J \text{ max}$ | 125°C, 150°C |

Features

- Guard Ring for over voltage Protection
- High forward surge capability
- High frequency operation
- Component in accordance to RoHS 2002/95/EC
- AEC-Q101 qualified

Mechanical Data

- Case: ITO-220AB
- Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin Finish annealed over copper Lead frame. Solderable per MIL-STD-202
- Weight: 1.689 grams (approximate)

MAXIMUM RATINGS (TA=25°C unless otherwise noted)

| PARAMETER | SYMBOL | SP40 20C | SP40 30C | SP40 40C | SP40 45C | SP40 50C | SP40 60C | SP40 80C | SP40 100C | SP40 150C | SP40 200C | UNIT |
|---|-----------------|-------------|----------|----------|----------|----------|----------|-------------|-----------|-----------|-----------|------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 20 | 30 | 40 | 45 | 50 | 60 | 80 | 100 | 150 | 200 | V |
| Maximum RMS voltage | V_{RMS} | 14 | 21 | 28 | 31.5 | 35 | 42 | 56 | 70 | 105 | 140 | V |
| Maximum DC blocking voltage | V_{DC} | 20 | 30 | 40 | 45 | 50 | 60 | 80 | 100 | 150 | 200 | V |
| Maximum average forward rectified current (Total) (Per Leg) | I_F | 40 20 | | | | | | | | | | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 250.0 | | | | | | | | | | A |
| Maximum Instantaneous Forward Voltage $I_F=20A @ 25^\circ C$ | V_F | 0.60 | | | 0.75 | | 0.85 | | 0.95 | | | V |
| Maximum DC Reverse Current @ $T_c=25^\circ C$ at Rated DC Blocking Voltage @ $T_c=100^\circ C$ | I_R | 1 20 | | | | | | 0.5 5 | | | | mA |
| Typical Junction Capacitance(NOTE1) | C_j | 1,250 | | | | 850 | | 560 | | 350 | | pF |
| Typical Thermal Resistance | $R_{\theta JC}$ | 3 | | | | | | | | | | °C/W |
| Operating Temperature Range | T_J | -55 to +125 | | | | | | -55 to +150 | | | | °C |
| Storage Temperature Range | T_{STG} | -55 to +150 | | | | | | | | | | °C |

NOTES:1.Measured at 1.0MHZ and applied reverse voltage of 4.0V DC



FIG. 1-TYPICAL FORWARD CURRENT DERATING CURVE

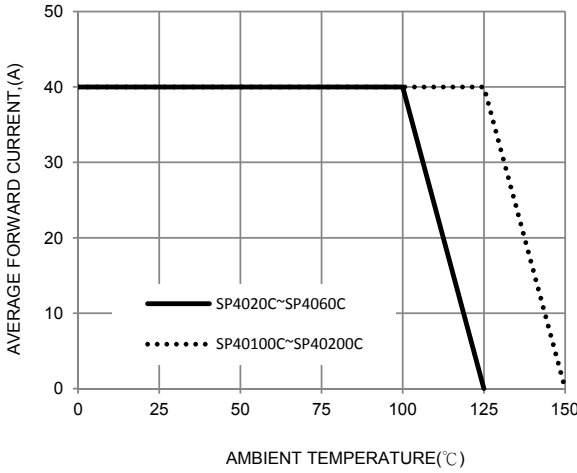


FIG. 2-TYPICAL FORWARD CHARACTERISTICS

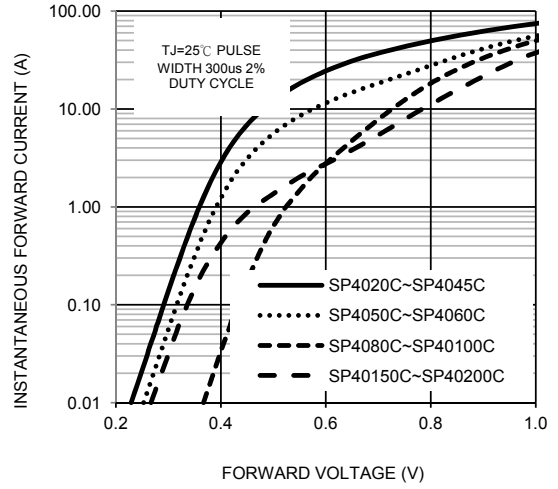


FIG. 3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

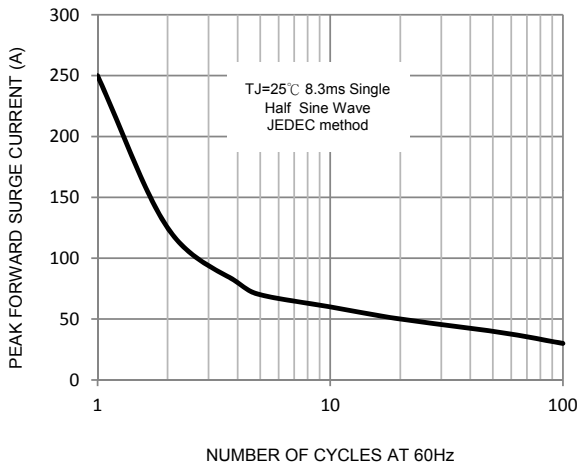


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

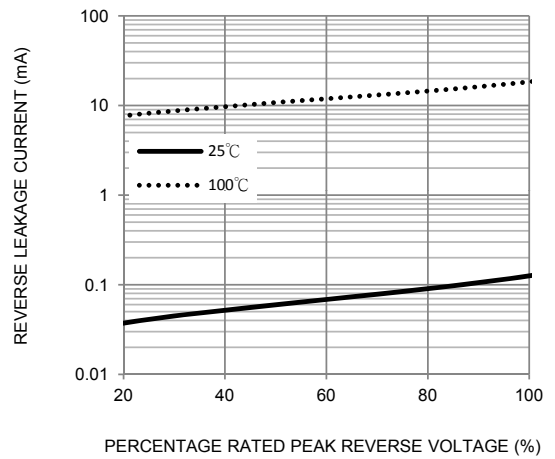


FIG. 5-TYPICAL JUNCTION CAPACITANCE

