

SCHOTTKY BARRIER SOLAR RECTIFIER

VOLTAGE 45 Volts CURRENT 18 Amperes

FEATURES

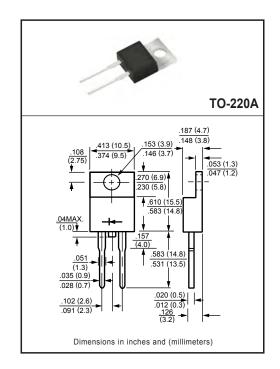
- * Low switching noise
- * Low forward voltage drop
- * Low thermal resistance
- * High current capability
- * High surge capabitity
- * High reliability
- * ideal for solar panel PV application such as By-Pass diode

MECHANICAL DATA

- * Case: TO-220A
- * Epoxy: Device has UL flammability classification 94V-O
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any * Weight: 1.877 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.



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

| RATINGS | SYMBOL | SPKT1845 | UNITS |
|--|------------------|------------------------------|------------------|
| Maximum Recurrent Peak Reverse Voltage | V _{RRM} | 45 | Volts |
| Maximum RMS Voltage | V _{RMS} | 31.5 | Volts |
| Maximum DC Blocking Voltage | V _{DC} | 45 | Volts |
| Maximum DC Forward Current @TL=125°C(Note 1) | lo | 18 | Amps |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | I _{FSM} | 300 | Amps |
| Typical Current Square Time | I ² T | 373.3 | A ² S |
| Typical Thermal Resistance | R _{θJA} | 9.6 | °C/W |
| | Rejc | 4.8 | |
| Operating Temperature Range | TJ | 175(Tj≤200°C in Bypass Mode) | °C |
| Storage Temperature Range | T _{STG} | -55 to + 175 | ۰C |

$\textbf{ELECTRICAL CHARACTERISTICS}(\textcircled{0} \text{TA=25 } ^{\circ}\text{C unless otherwise noted})$

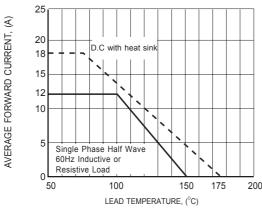
| CHARACTERISTICS | | SYMBOL | SPKT1845 | UNITS | | | |
|--|------------------------|----------------|----------|-------|--|--|--|
| Maximum Instantaneous Forward Voltage at 18 A DC | @T _A = 25°C | V _F | .52 | Volts | | | |
| | @T _A = 75°C | | .47 | | | | |
| Maximum Average Reverse Current | @T _A = 25°C | I _R | 100 | uA | | | |
| at Rated DC Blocking Voltage | @T _A = 75°C | | 2.5 | mA | | | |

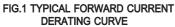
NOTES: 1. Heat-sink mounted 10mm max from body

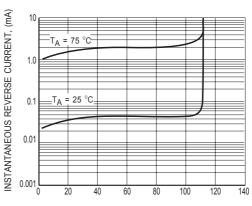
2. "Fully ROHS compliant", "100% Sn plating (Pb-free)".

2010-01 REV: A

RATING AND CHARACTERISTICS CURVES (SPKT1845)







PERCENT OF RATED PEAK REVERSE VOLTAGE, (%)

FIG.2 TYPICAL REVERSE CHARACTERISTICS

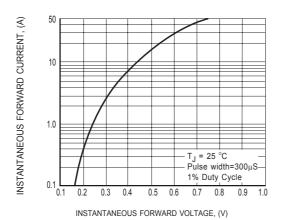


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

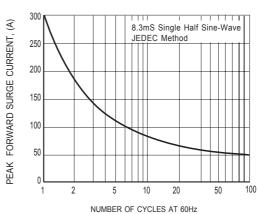


FIG.4 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

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