# HTR10100

HY ELECTRONIC (CAYMAN) LIMITED www.hygroup.com.tw

| SCHOTTKY BARRIER RECTIFIERS | REVERSE VOLTAGE | 100 | Volts |
|---|---|---|---|
| | FORWARD CURRENT | 10 | Amperes |

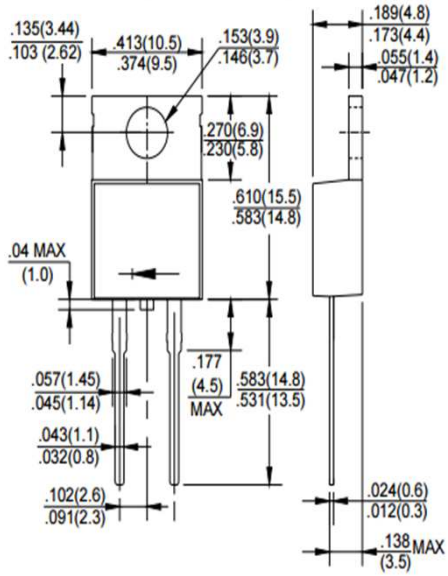
## FEATURES

- For surface mounted application
- Trench Schottky Technology
- Low forward voltage drop, high efficiency
- High current capability
- High surge capacity
- Plastic package has UL flammability classification 94V-0
- For use in low voltage,high frequency inverters,free wheeling,**switching power supplies, DC-DC converter**,and polarity protection applications

## MECHANICAL DATA

- Case: TO-220AC molded plastic
- Polarity: As marked on the body
- Weight: 0.08ounces,2.24 grams
- Mounting position :Any

TO-220AC




Dimensions in inches and (millimeters)

HALOGEN FREE

RoHS COMPLIANT

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25℃ ambient temperature unless otherwise specified.

Single phase, half wave ,60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

**MAXIMUM RATINGS ($T_A$ = 25 °C unless otherwise noted)**

| CHARACTERISTICS | SYMBOL | HTR10100 | UNIT |
|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 100 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 70 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 100 | V |
| Maximum Average Forward Rectified Current ( See Fig.1) | $I_{(AV)}$ | 10 | A |
| Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load | $I_{FSM}$ | 100 | A |
| Peak repetitive reverse current at tp = 2 μs, 1 kHz | $I_{RRM}$ | 1 | A |
| Operating Temperature Range | $T_J$ | -55 to +150 | ℃ |
| Storage Temperature Range | $T_{STG}$ | -55 to +175 | ℃ |

**ELECTRICAL CHARACTERISTICS ($T_A$ = 25 °C unless otherwise noted)**

| PARAMETER / CONDITIONS | SYMBOL | Typ | Max | UNIT |
|---|---|---|---|---|
| Breakdown voltage per diode | $V_{BR}$ | 110 (minimun) | - | V |
| Forward Voltage (Note1) IF=5A @TJ=25℃ | $V_F$ | 0.61 | 0.66 | V |
| IF=5A @TJ=125℃ | | 0.57 | 0.61 | |
| IF=10A @TJ=25℃ | | 0.80 | 0.85 | |
| IF=10A @TJ=125℃ | | 0.69 | 0.73 | |
| Maximum DC Reverse Current @TJ=25℃ | $I_R$ | 40 | | uA |
| at Rated DC Bolcking Voltage @TJ=125℃ | | 20 | | mA |
| Typical Junction Capacitance (Note2) | $C_J$ | 322 | | pF |

**THERMAL CHARACTERISTICS ($T_A$ = 25 °C unless otherwise noted)**

| PARAMETER | SYMBOL | Typ HTR10100 | UNIT |
|---|---|---|---|
| Thermal Resistance Per Diode (Note3) | RθJC | 3 | ℃/W |

NOTES:1.300us pulse width,2% duty cycle.

2.Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.

3.Thermal resistance junction to case.

Preliminary

## RATING AND CHARACTERTIC CURVES

*HTR10100*

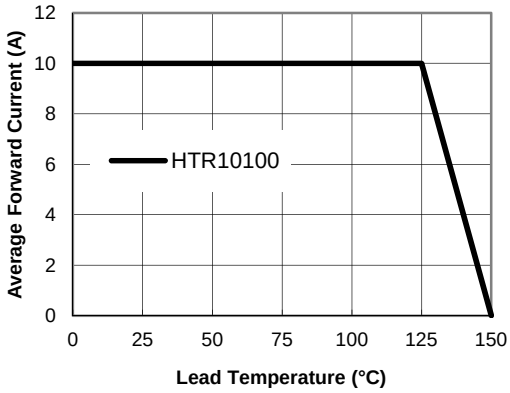



**Figure 1. Forward Current Derating Curve**

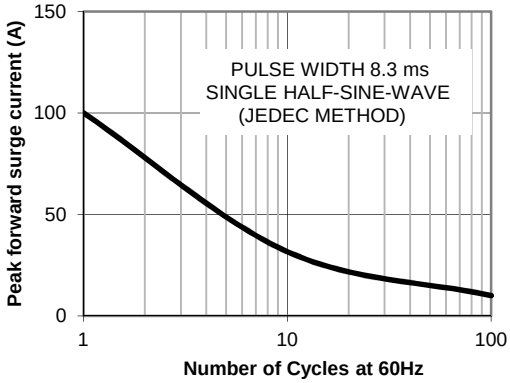



**Figure 2. Maximum NON-Repetitive**

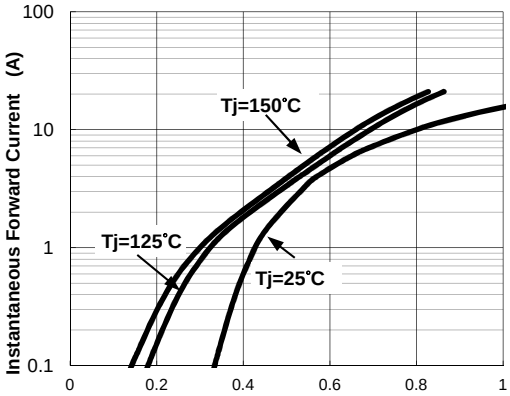



**Figure 3. Typical Instantaneous Forward Characteristics Per Leg**

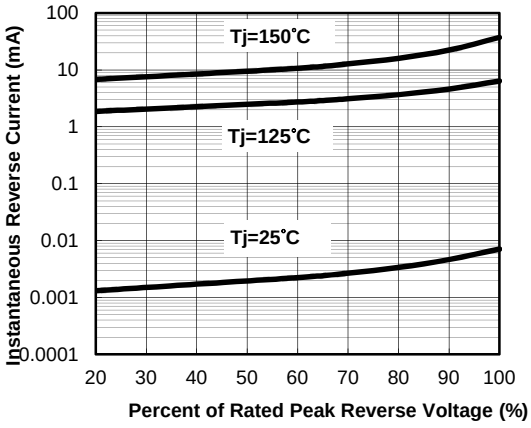



**Figure 4. Typical Reverse Characteristics**

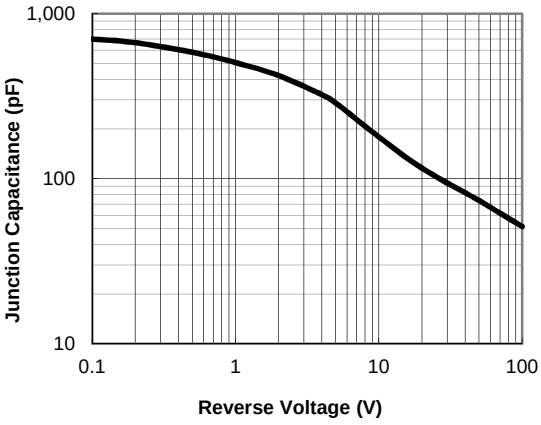



**Figure 5. Typical Junction Capacitance**

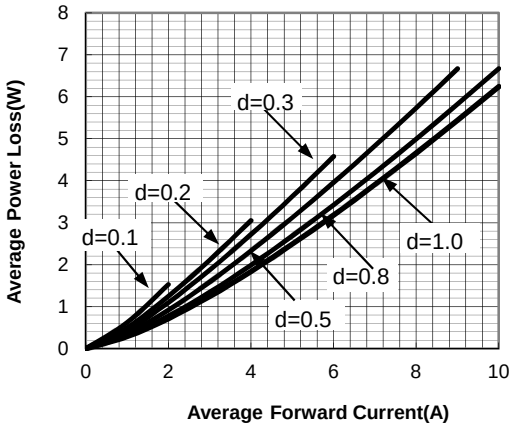



**Figure 6. Forward Power Loss Characteristics**