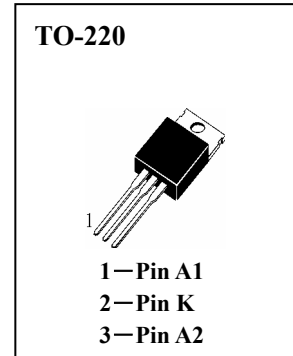# 30A SCHOTTKY BARREIER RECTIFIER

## ■ Features
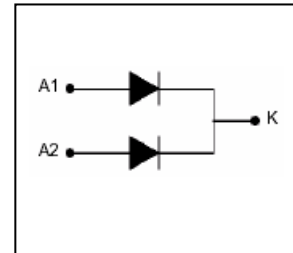
- ■ **Schottky Barrier Chip**
- ■ **Guard Ring Die Construction for Transient Protection**
- ■ **Low Power Loss,High Efficiency**
- ■ **High Surge Capability**
- ■ **High Current Capability and Low Forward Voltage Drop**
- ■ **For Use in Low Voltage,High Frequency Inverters,Free Wheelings ,and Polarity Protection Applications**

## ■ Package

**TO-220**



1－Pin A1
2－Pin K
3－Pin A2



## ■ Maximum Ratings

- ■ $T_{stg}$——Storage Temperature·······························−65~150℃
- ■ $T_j$——Operating Temperature·······························−65~150℃
- ■ $V_{RRM}$——Peak Repetitive Reverse Voltage····························40V
- ■ $V_{RWM}$ ——Working Peak Reverse Voltage·······················40V
- ■ $V_R$——DC Blocking Voltage··································40V
- ■ $V_{R(RMS)}$ ——RMS Reverse Voltage······························28V
- ■ $I_{F (AV)}$——Average Recified Output Current@$T_c$=95℃·······················Double Dies 30A
  - ◆ **(Note 1)** ·······················Single Die 15A
- ■ $I_{FSM}$——Non-Repetitive Peak Forward Surge Current（Single Die，60Hz）···············250A

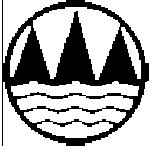## ■ Electrical Chatacteristic@$T_a$=25℃ unless otherwise specified

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

For capacitive load,derate current by 20%.

| Characteristic | Symbol | Min | Max | Unit | Condition |
|---|---|---|---|---|---|
| Forward Voltage Drop | $V_{FM}$ | | 0.55 | V | $I_F$=15A,$T_C$=25℃ |
| Peak Reverse Current at Rated DC Blocking Voltage | $I_{RM}$ | | 1.0 75 | mA | $V_R = V_{RRM}$   $T_C$=25℃ $T_C$=100℃ |
| Typical Junction Capacitance(Note 2) | Cj | | 1100 | pF | |
| Typical Thermal Resistance Junction to Case(Note 1) | $R_{th-j}$ | | 2.0 | ℃/W | |

Notes:1、Thermal resistance junction to case mounted on heatsink.

2、Measured at 1.0 MHz and Applied Reverse Voltage of 4.0V DC.
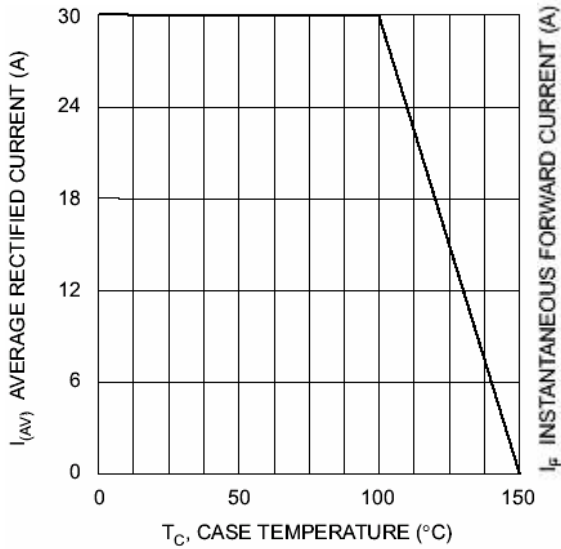
## ■ PERFORMANCE CURVES
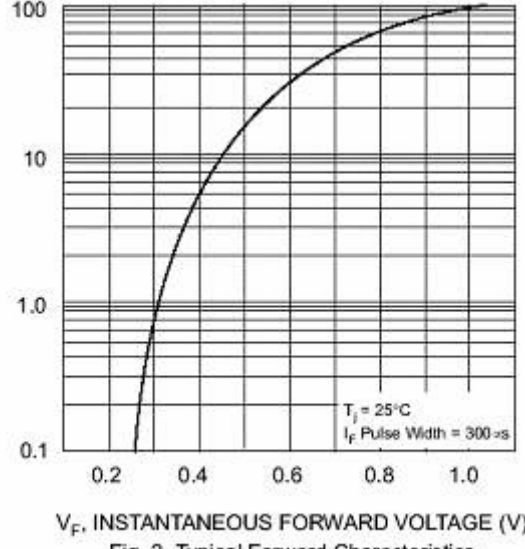


Fig. 1 Forward Derating Curve
($I_{(AV)}$, AVERAGE RECTIFIED CURRENT (A) vs $T_C$, CASE TEMPERATURE (°C))



Fig. 2 Typical Forward Characteristics
($I_F$, INSTANTANEOUS FORWARD CURRENT (A) vs $V_F$, INSTANTANEOUS FORWARD VOLTAGE (V))

$T_j = 25°C$
$I_F$ Pulse Width = 300 ·s



Fig. 3 Maximum Non-Repetitive Surge Current
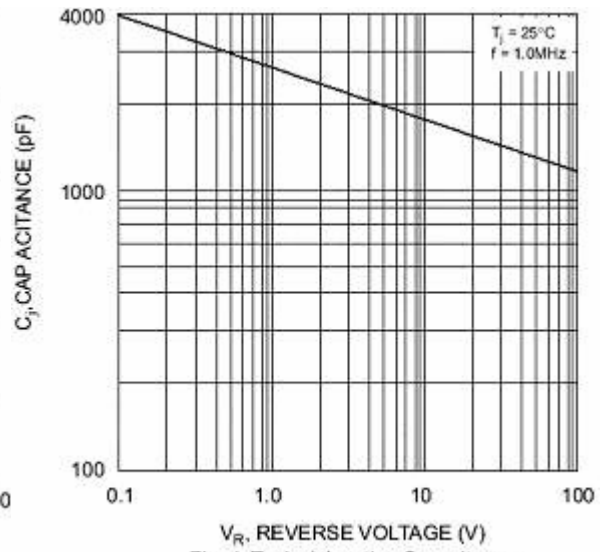($I_{FSM}$ PEAK FORWARD CURRENT (A) vs NUMBER OF CYCLES AT 60Hz)

8.3 ms single half-sine-wave
JEDEC method



Fig. 4 Typical Junction Capacitance
($C_j$, CAP ACITANCE (pF) vs $V_R$, REVERSE VOLTAGE (V))

$T_j = 25°C$
$f = 1.0MHz$