

**TO-220AC SCHOTTKY BARRIER RECTIFIER**
**Features**

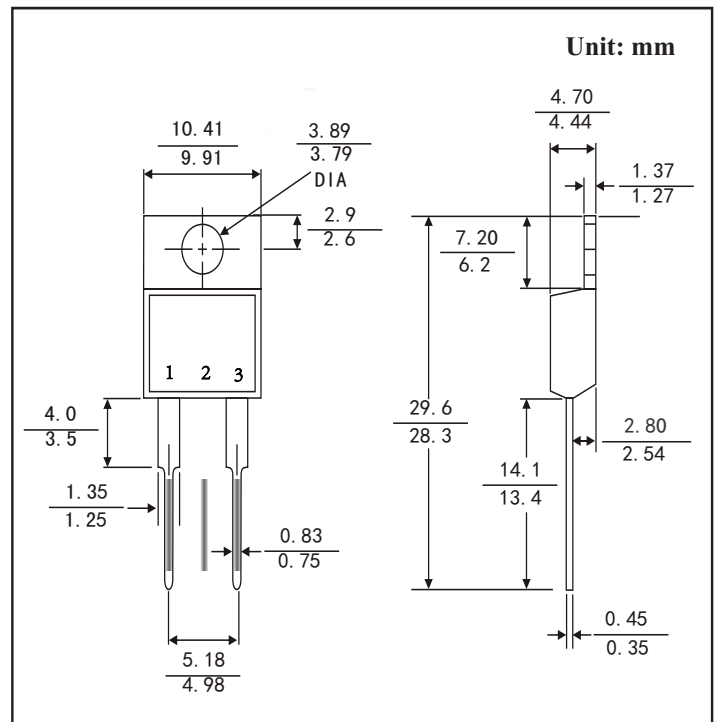
- High frequency operation
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Solder dip 260°C max. 7 s, per JESD 22-B106

**Typical Applications**

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

**Mechanical Data**

- **Package:** TO-220AC  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked


**MAXIMUM RATINGS AND CHARACTERISTICS**

@ 25°C Ambient Temperature (unless otherwise noted)

PARAMETER	SYMBOL	UNIT	MBR30300CT
Device marking code			MBR30300CT
Repetitive Peak Reverse Voltage	VRRM	V	300
Average Rectified Output Current @60Hz sine wave, R-load, Tc(FIG.1)	IO	A	30
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, Tj=25°C	IFSM	A	200
Current Squared Time @1ms≤t<8.3ms Tj=25°C	I <sup>2</sup> t	A <sup>2</sup> s	167
Storage Temperature	T <sub>stg</sub>	°C	-55 ~ +150
Junction Temperature	T <sub>j</sub>	°C	-55 ~ +150

**■Electrical Characteristics (Tj=25°C Unless otherwise specified)**

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
			I <sub>FM</sub> =30A T <sub>j</sub> =25°C	0.50	0.92	1.30
Peak Forward Voltage	V <sub>FM</sub>	V	VRM=VRRM T <sub>j</sub> =25°C	-	-	5
DC reverse current at rated DC blocking voltage per diode	I <sub>RRM1</sub>	uA				
			VRM=VRRM T <sub>j</sub> =125°C	-	-	20
Junction capacitance	C <sub>j</sub>	pF	1MHz and Applied Reverse Voltage of 4.0 V.D.C.	50	130	300

## ■ Thermal Characteristics (T<sub>j</sub>=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MBR30300CT
Thermal Resistance	Between junction and ambient	R <sub>θJ-A</sub>	°C/W	50.0
	Between junction and case	R <sub>θJ-C</sub>	°CW	2.0

## ■ Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MBR30300CT	Approximate 1.9	50	1000	5000	Tube

## ■ Characteristics (Typical)

FIG1: I<sub>o</sub> -T<sub>c</sub> Curve

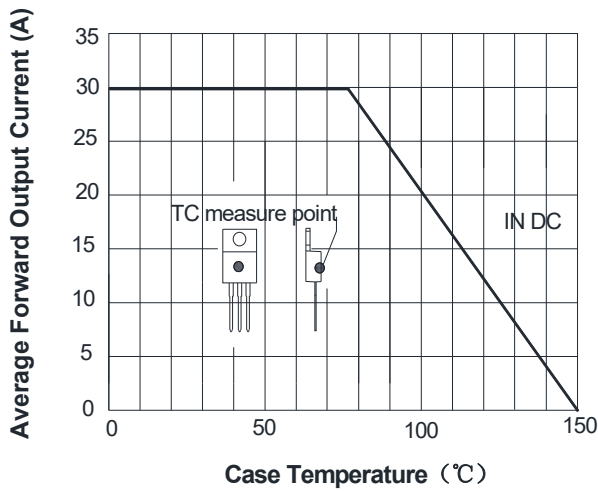


FIG2: Surge Forward Current Capability

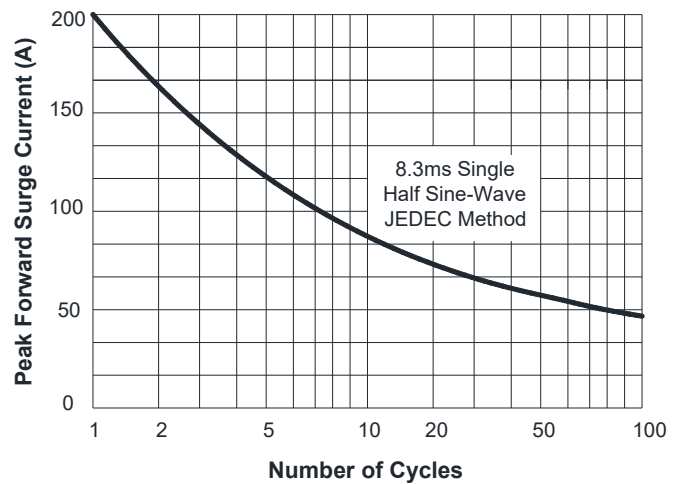


FIG3: Forward Voltage

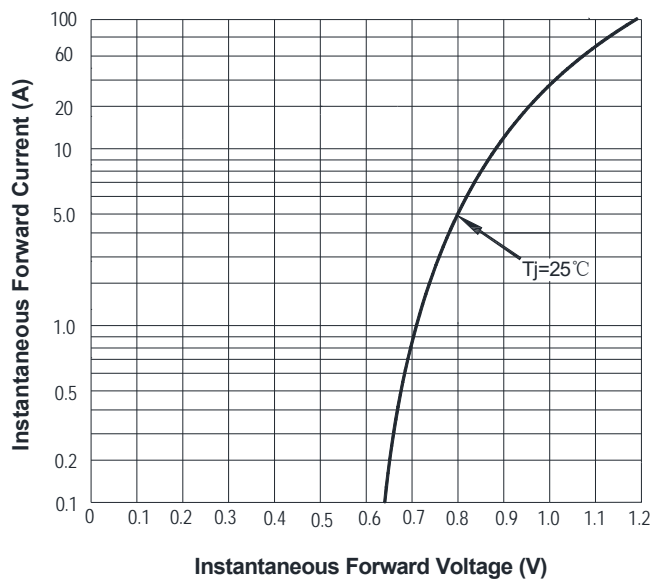


FIG4: Typical Reverse Characteristics

