

30A, 45V Low Forward Voltage Schottky Rectifier

FEATURES

- Trench MOS Schottky barrier diode
- Low forward voltage drop
- Low profile - typical body height 1.1 mm
- Moisture sensitivity: level 1, per J-STD-020
- High temperature soldering guaranteed: 260°C/10 seconds
- RoHS compliant
- Halogen-free according to IEC 61249-2-21 definition

TO-277B



RoHS
COMPLIANT

HALOGEN
FREE



MECHANICAL DATA

- Case: TO-277B
- Case material: molding compound meets UL 94V-0 flammability rating

TYPICAL APPLICATION

General purpose use in low voltage high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

MAXIMUM RATINGS

$T_A=25^\circ\text{C}$ unless otherwise noted

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	45	V
Average Forward Rectified Current	$I_{F(AV)}$	30	A
Peak forward surge current (8.3 ms single half sine-wave superimposed on rated load)	I_{FSM}	400	A
Operating Junction Temperature Range	T_J	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS

$T_A=25^\circ\text{C}$ unless otherwise noted

Parameter	Test Conditions	Symbol	Value		Unit
			Typ.	Max.	
Forward Voltage@ $I_F=10\text{A}$	$T_A=25^\circ\text{C}$	V_F	0.43	0.47	V
	$T_A=125^\circ\text{C}$		0.39	0.43	
Forward Voltage@ $I_F=30\text{A}$	$T_A=25^\circ\text{C}$		0.51	0.55	
	$T_A=125^\circ\text{C}$		0.46	0.5	
Reverse Current @ V_{RRM}	$T_A=25^\circ\text{C}$	I_R	35	70	μA
	$T_A=125^\circ\text{C}$		20	50	mA
Typical Thermal Resistance		$R_{\theta JA}$	103		$^\circ\text{C/W}$

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RATINGS AND CHARACTERISTIC CURVES

$T_A=25^\circ\text{C}$ unless otherwise noted

FIG.1: Forward Output Current Derating Curve

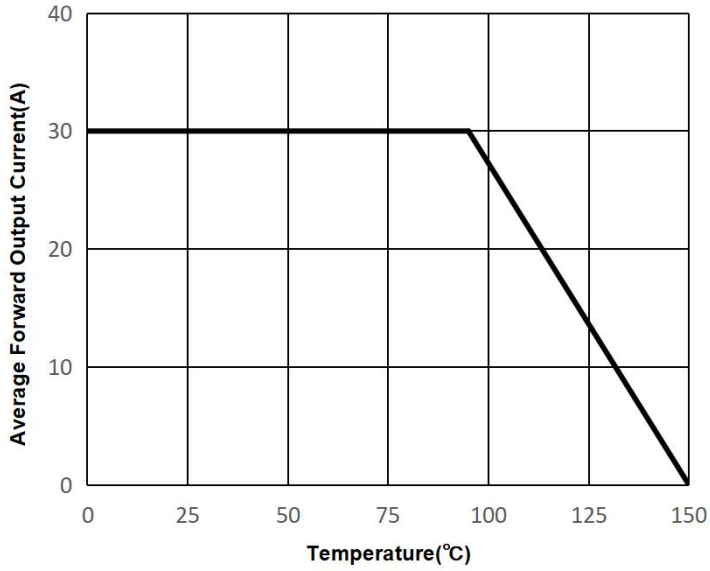


FIG.2: Maximum Non-Repetitive Peak Forward Surge Current

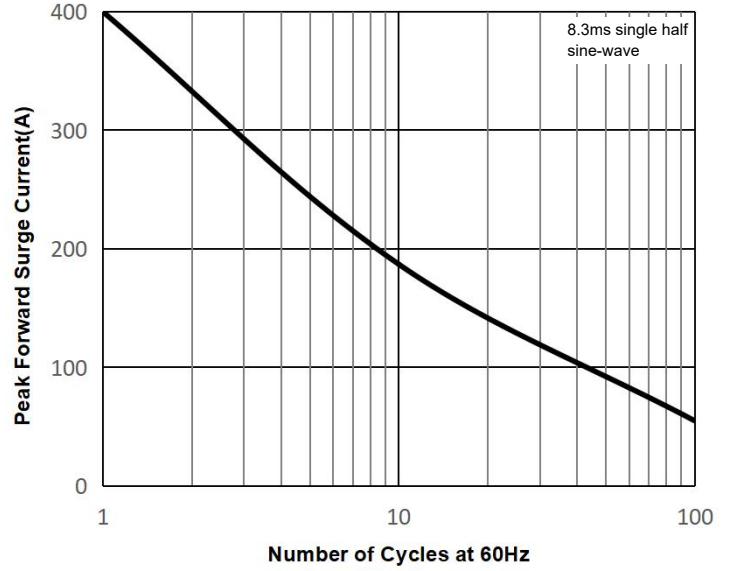


FIG.3: Typical Forward Characteristics

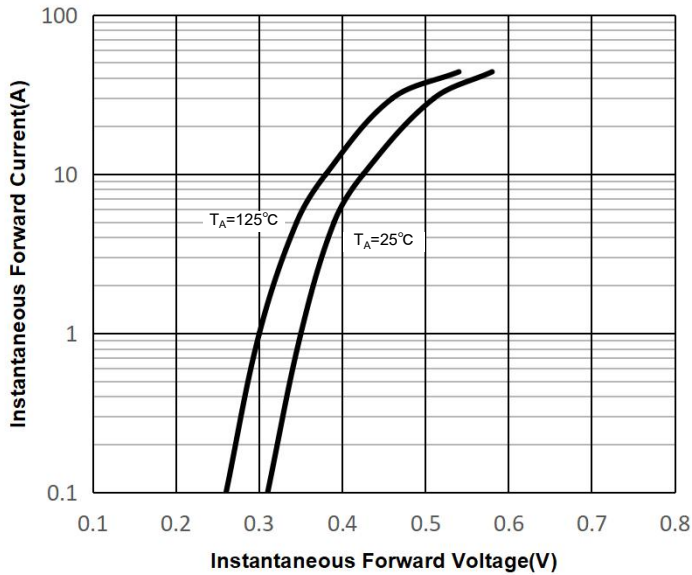
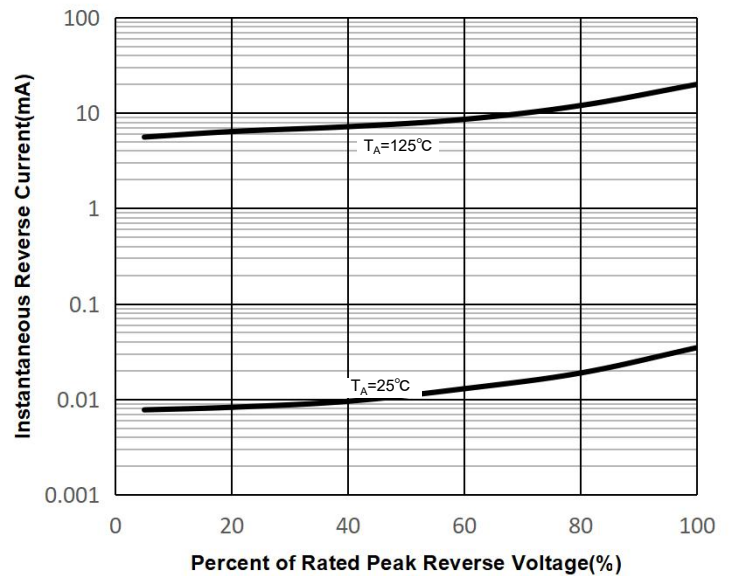
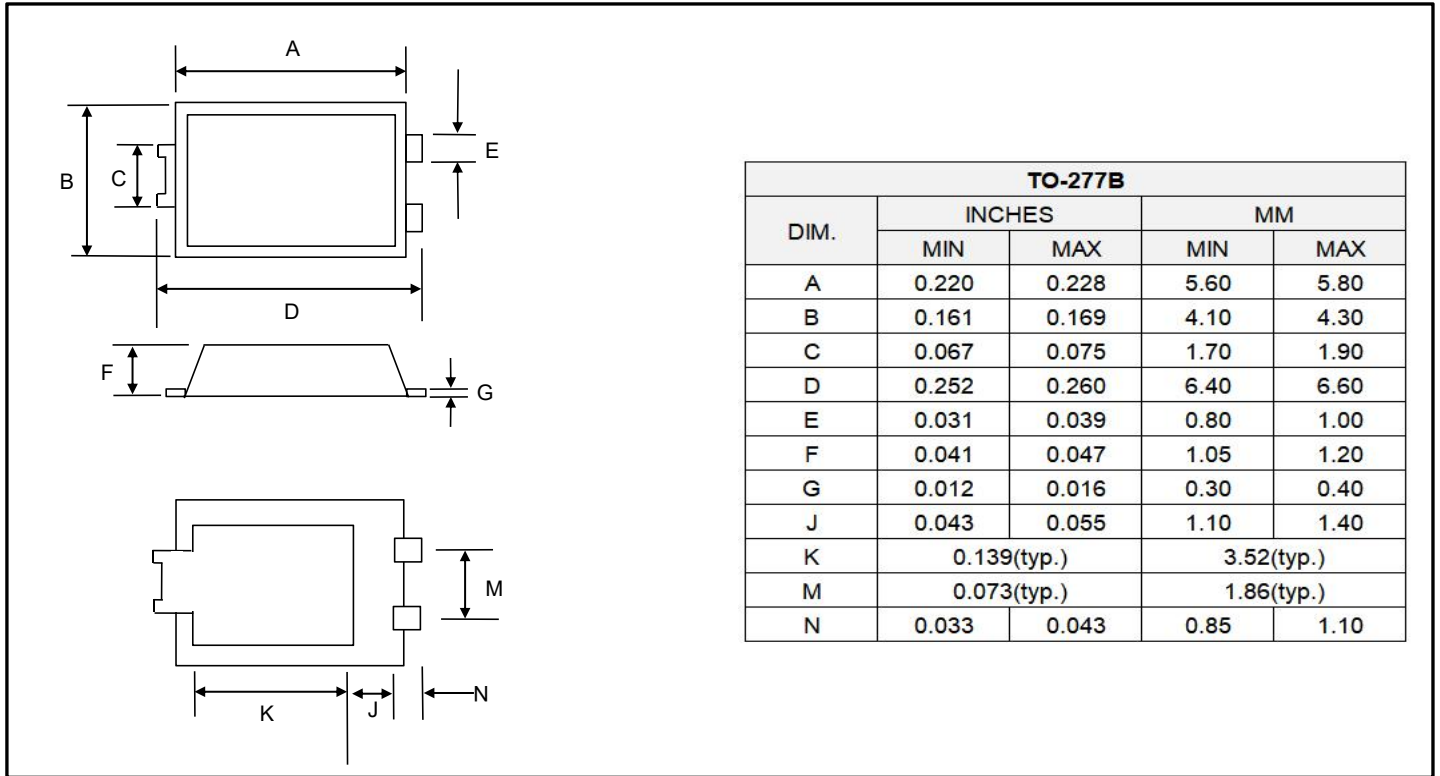


FIG.4: Typical Reverse Characteristics



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PACKAGE OUTLINE DIMENSIONS



PACKING INFORMATION

Package	Reel(PCS)	Inner Box(PCS)	Carton(PCS)
TO-277B	5,000	10,000	80,000