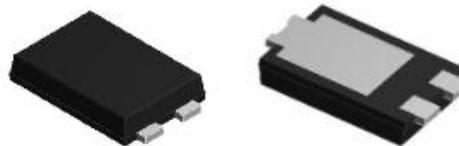


20A, 45V Low Forward Voltage Schottky Rectifier

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	$I_{F(AV)}$	20		A
Peak forward surge current (8.3 ms single half sine-wave superimposed on rated load)	I_{FSM}	300		A
Operating Junction Temperature Range	T_J	-55 to +150		°C
Storage Temperature Range	T_{STG}	-55 to +150		°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	0.45	0.48	V
	$T_A=125^\circ\text{C}$		0.4	0.43	
Forward Voltage@ $I_F=20\text{A}$	$T_A=25^\circ\text{C}$	V_F	0.5	0.53	
	$T_A=125^\circ\text{C}$		0.45	0.48	
Reverse Current @ V_{RRM}	$T_A=25^\circ\text{C}$	I_R	20	70	uA
	$T_A=125^\circ\text{C}$		10	50	
Typical Thermal Resistance		$R_{\theta JA}$	88		°C/W

20A, 45V Low Forward Voltage Schottky Rectifier

RATINGS AND CHARACTERISTIC CURVES

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

FIG.1: Forward Output Current Derating Curve

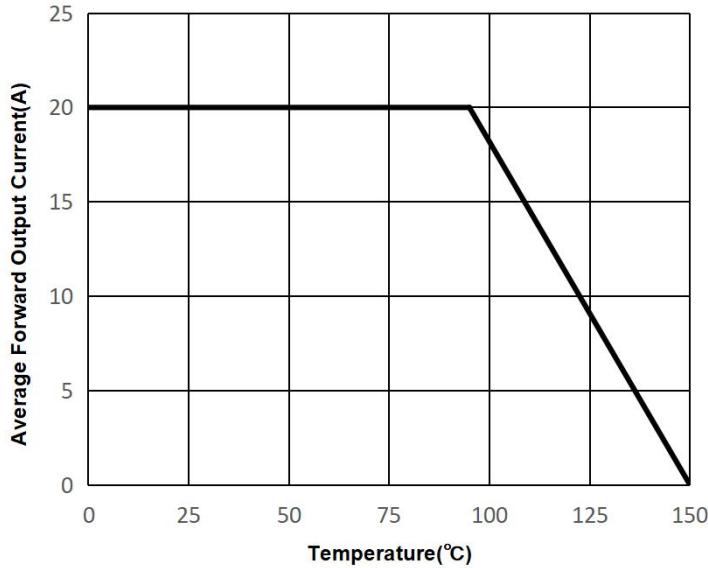


FIG.2: Maximum Non-Repetitive Peak Forward Surge Current

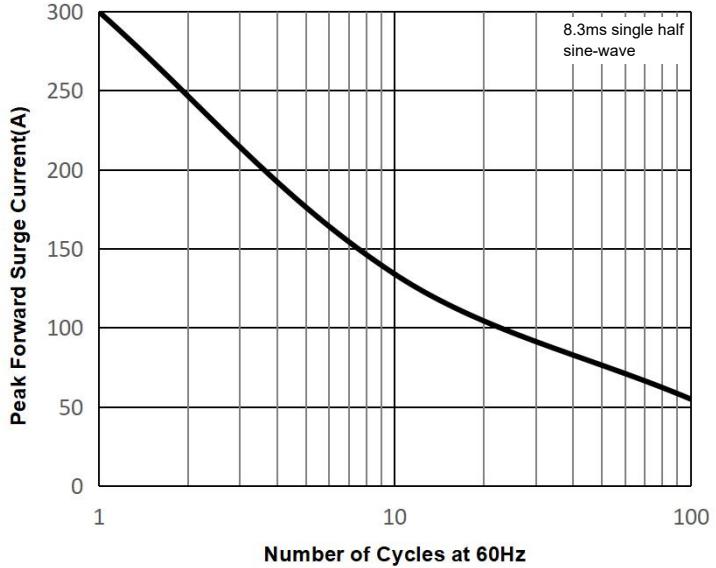


FIG.3: Typical Forward Characteristics

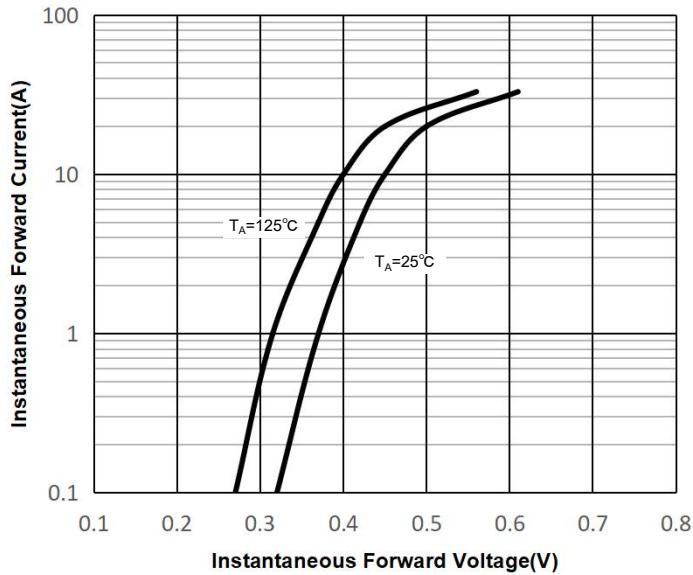
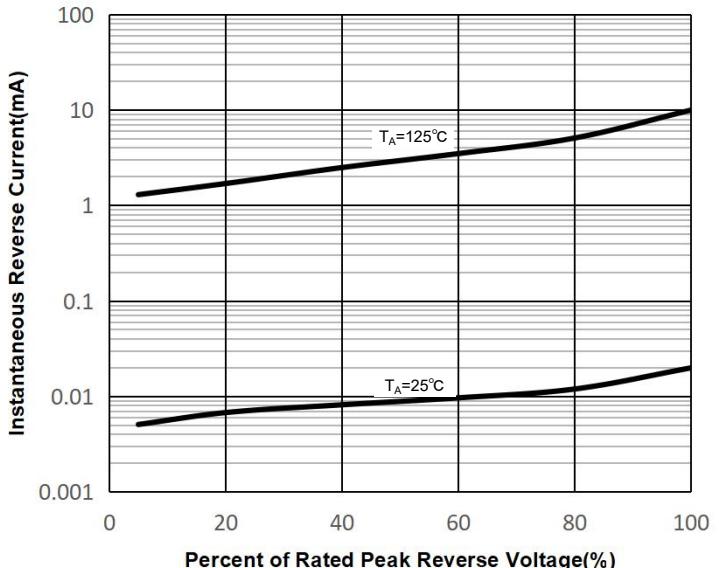
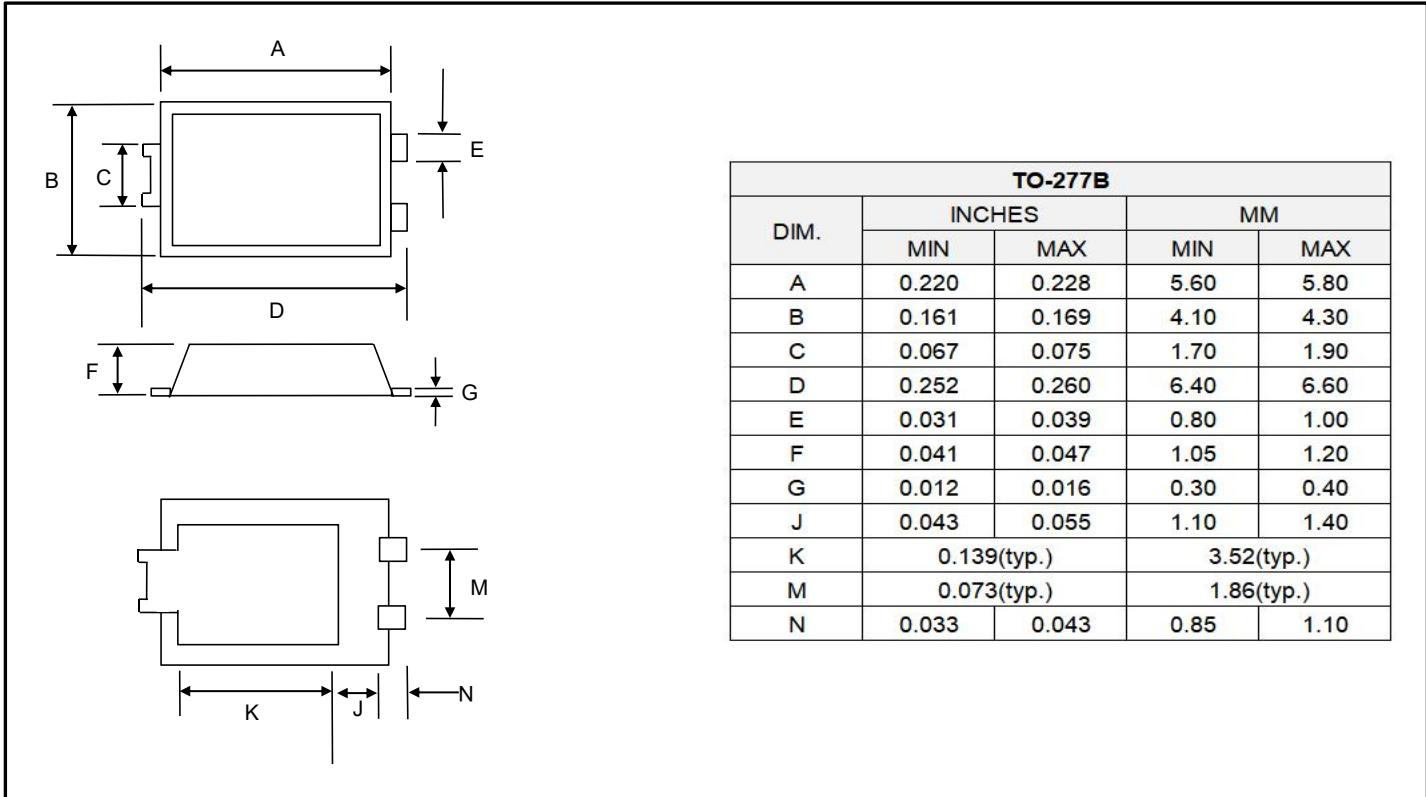


FIG.4: Typical Reverse Characteristics



20A, 45V Low Forward Voltage Schottky Rectifier

PACKAGE OUTLINE DIMENSIONS



The diagram illustrates the package outline dimensions for a TO-277B package. It consists of two parts: a top view and a side view. The top view shows a rectangular body with lead spacing (A), height (B), lead thickness (C), lead length (D), and lead pitch (E). The side view shows the lead thickness (F), lead length (G), and lead pitch (J). Below the top view, a second set of dimensions (K, M, N) is shown, likely representing the lead spacing and height for a different orientation or part number.

TO-277B				
DIM.	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.220	0.228	5.60	5.80
B	0.161	0.169	4.10	4.30
C	0.067	0.075	1.70	1.90
D	0.252	0.260	6.40	6.60
E	0.031	0.039	0.80	1.00
F	0.041	0.047	1.05	1.20
G	0.012	0.016	0.30	0.40
J	0.043	0.055	1.10	1.40
K	0.139(typ.)		3.52(typ.)	
M	0.073(typ.)		1.86(typ.)	
N	0.033	0.043	0.85	1.10

PACKING INFORMATION

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