

FEATURES

- ✧ High current capability, low forward voltage
- ✧ Excellent high temperature stability
- ✧ Low power loss, and high efficiency
- ✧ High forward surge capability
- ✧ RoHS compliant, and Halogen free

MACHANICAL DATA

- ✧ Case: TO-277B small outline plastic package
- ✧ Terminal: Matte tin plated, solderable per MIL-STD-750, Method 2026
- ✧ Molding Compound Flammability Rating:UL94-0
- ✧ High temperature soldering guaranteed: 260°C /10second
- ✧ Packed with FRP substrate and epoxy underfilled

ORDERING INFORMATION

- ✧ Device:ST5100L
- ✧ Package: TO-277B
- ✧ Material: Halogen free
- ✧ Packing: Tape & 13" Reel
- ✧ Quantity per reel: 5,000pcs

APPLICATIONS

- ✧ Switching mode power supply applications
- ✧ Portable equipment battery applications
- ✧ High frequency rectification
- ✧ DC/DC converter
- ✧ Designed as bypass diodes for solar panels

PIN CONFIGURATION



ACKAGE OUTLINE



ABSOLUTE MAXIMUM RATING ($T_{amb}=25^{\circ}\text{C}$, unless otherwise specified)

Symbol	Parameter	Value	Units
V_{RRM} V_{RWM} V_{DC}	Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC blocking voltage	100	V
$V_{R(RMS)}$	RMS Rectified Voltage	70	V
$I_{F(AV)}$	Average Forward Current	5	A
I_{FSM}	Peak Forward Surge Current, 8.3ms single half sine-wave	80	A
$R_{\theta JA}$ $R_{\theta JL}$	Typical Thermal Resistance Junction to Ambient	60 3	$^{\circ}\text{C/W}$
T_J & T_{STG}	Junction and Storage Temperature	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$, unless otherwise specified)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_F	Forward Voltage	$I_F = 5\text{A @ } 25^{\circ}\text{C}$		0.65	0.75	V
I_R	Reverse Leakage Current	@ 25°C		10	50	μA
		@ 125°C		1.5	20	mA
CJ	Typical junction capacitance	4V, 1MHz			370	pF

ELECTRICAL CHARACTERISTICS CURVE

FIG.1-FORWARD CURRENT DERATING CURVE

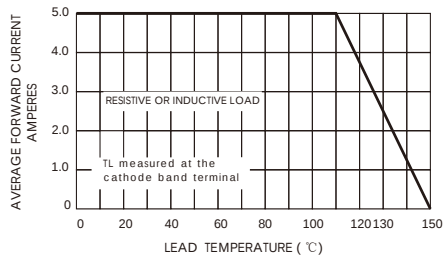


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

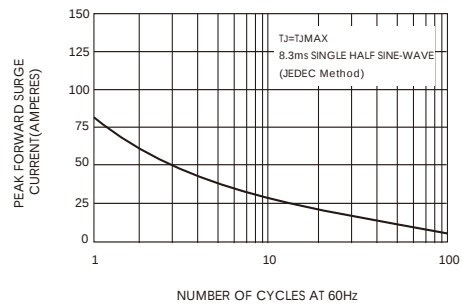


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

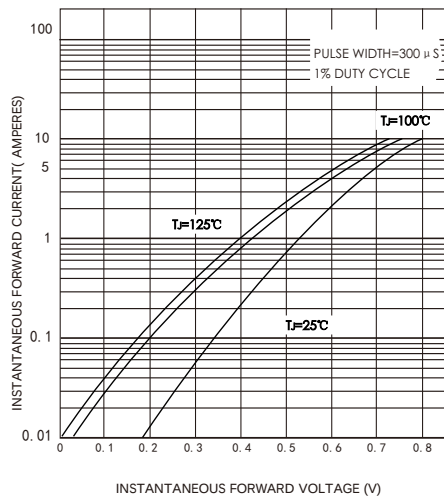


FIG.4-TYPICAL REVERSE CHARACTERISTICS

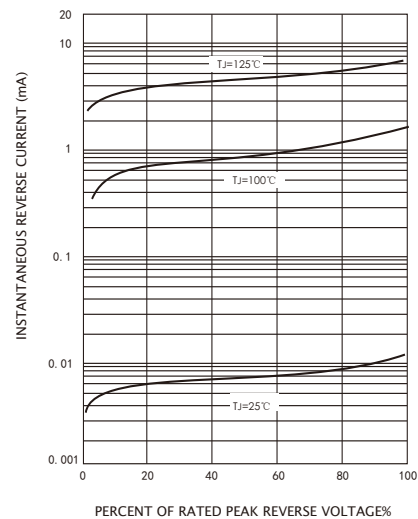
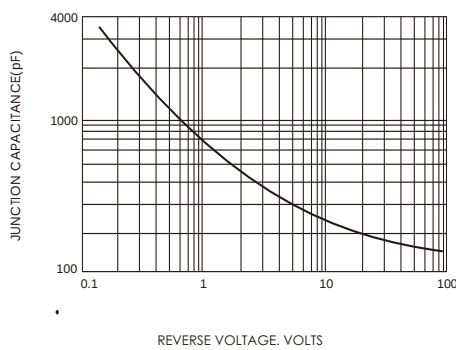
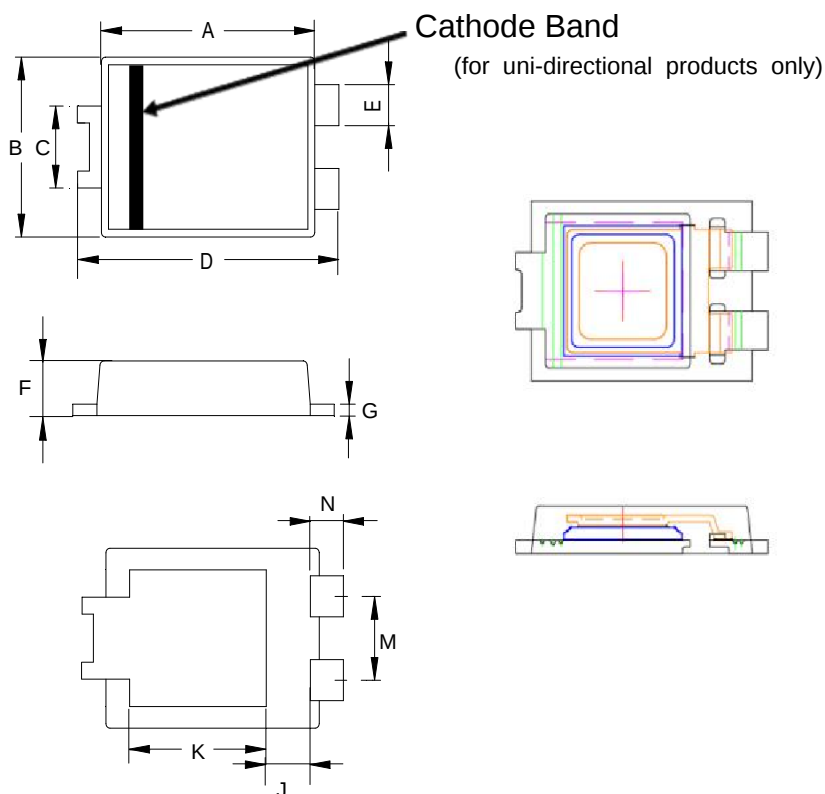


FIG.5-TYPICAL JUNCTION CAPACITANCE

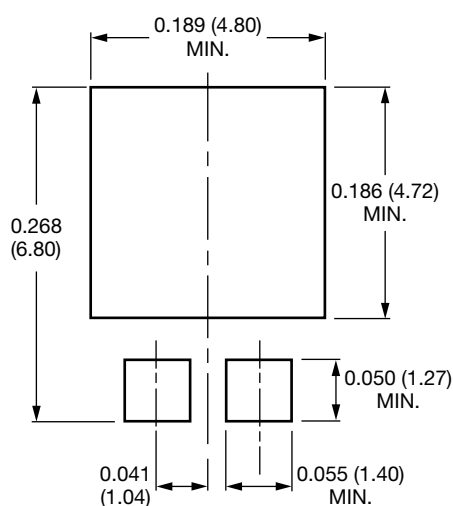


TO-277B PACKAGE OUTLINE DIMENSIONS



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.220	0.228	5.600	5.800
B	0.161	0.169	4.100	4.300
C	0.067	0.075	1.700	1.900
D	0.252	0.260	6.400	6.600
E	0.031	0.039	0.800	1.000
F	0.041	0.047	1.050	1.200
G	0.010	0.016	0.250	0.400
J	0.043	0.055	1.100	1.400
K	0.128	0.152	3.250	3.850
M	0.067	0.079	1.700	2.000
N	0.033	0.043	0.850	1.100

Dimensions in inches and (millimeters)



Soldering footprint Unit (mm)

PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG
TO-277B	5000/REEL	80000	41X38X36	12.00