

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: SD10N45SL
- ✧ Package: TO-277B
- ✧ Marking: 10N45
- ✧ 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



PACKAGE OUTLINE



ABSOLUTE MAXIMUM RATING (Tamb=25°C, unless otherwise specified)

Symbol	Parameter	Value	Units
V_{RRM}	Repetitive Peak Reverse Voltage	45	V
$I_{F(AV)}$	Average Forward Current	10	A
I_{FSM}	Peak Forward Surge Current, 8.3ms single half sine-wave	150	A
T_J & T_{STG}	Junction and Storage Temperature	-50~+150	°C

ELECTRICAL CHARACTERISTICS (Tamb=25°C, unless otherwise specified)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_F	Forward Voltage	$I_F = 3A @ 25^\circ C$		0.37	0.40	V
		$I_F = 5A @ 25^\circ C$		0.40	0.45	V
		$I_F = 10A @ 25^\circ C$		0.48	0.52	V
		$I_F = 3A @ 125^\circ C$		0.28		V
		$I_F = 5A @ 125^\circ C$		0.34		V
		$I_F = 10A @ 125^\circ C$		0.45		V
V_R	Reverse Breakdown Voltage	$I_R = 0.5mA$	45			V
I_R	Reverse Leakage Current	$V_R = 45V @ 25^\circ C$			0.20	mA
		$V_R = 45V @ 125^\circ C$		20		mA
C_J	Junction Capacitance	$f=1MHz, V_R=4V$		460		pF

ELECTRICAL CHARACTERISTICS CURVE

Fig 1 Typical Forward Current Derating Curve

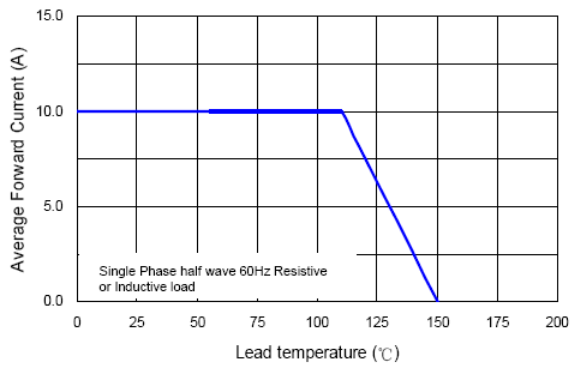


Fig 2 Typical Instantaneous Forward Characteristics

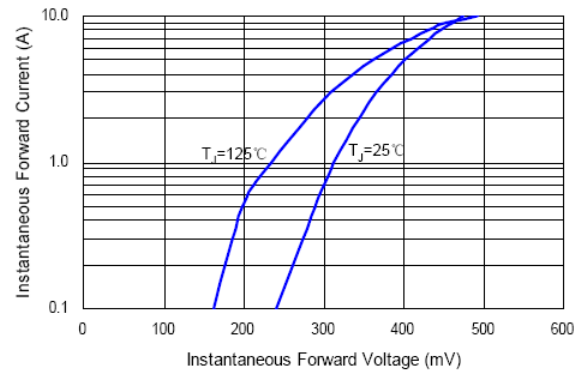


Fig 3 Max. Non-repetitive Forward Surge Current

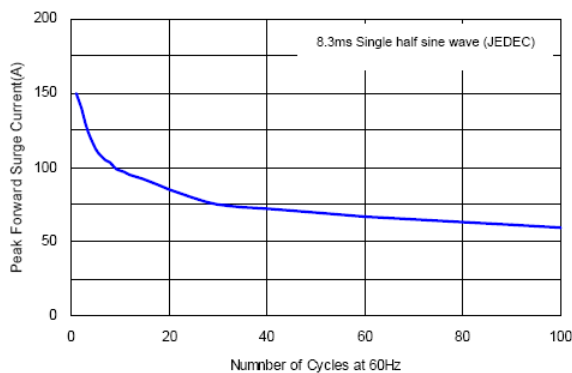


Fig 4 Typical Reverse Characteristics

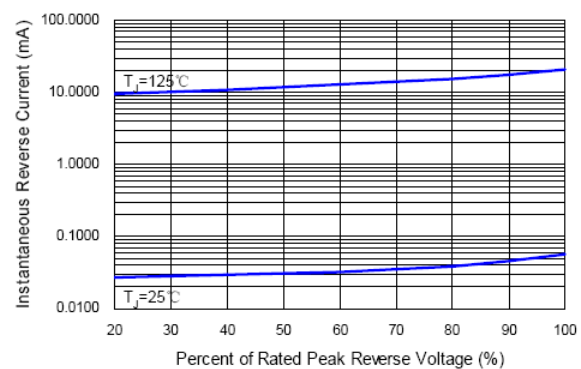
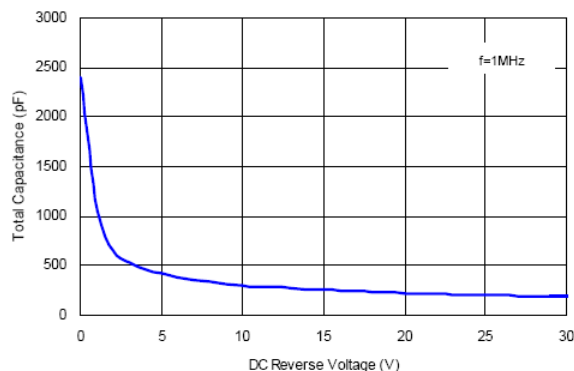
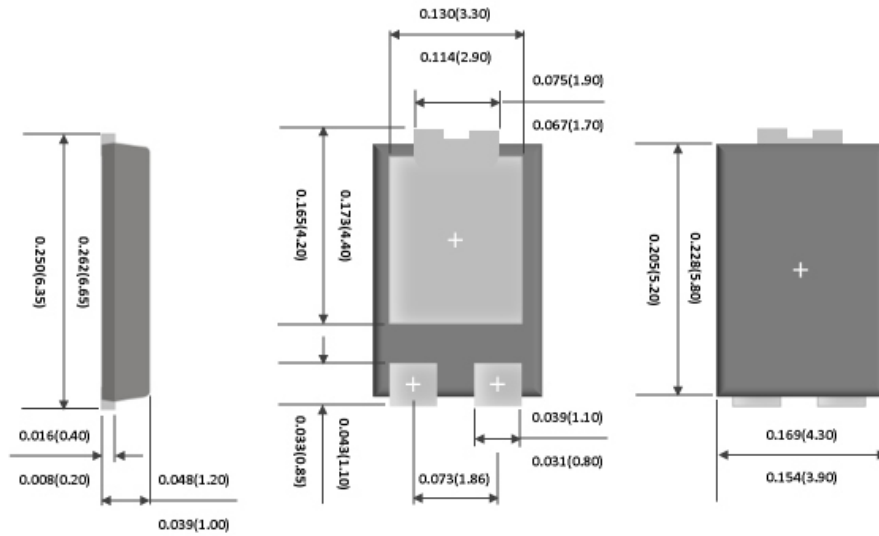


Fig 5 Total Capacitance vs. Reverse Voltage

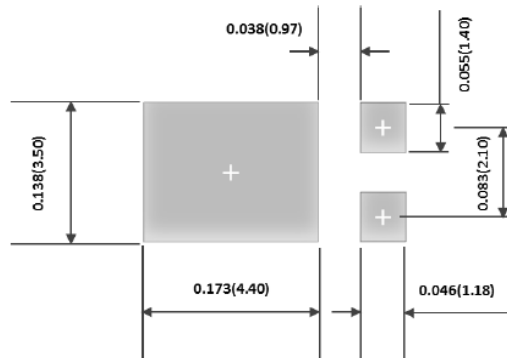


TO-277B PACKAGE OUTLINE DIMENSIONS



unit: mm

FOOT PRINT RECOMMENDATION



unit: mm

MARKING CODE



10N45	YYYY	XXX
Device name	Trace code	Date code
		XXX
		XX=month(01,02,03,04,... 11,12)
		X=year(2=2012,3=2013,4=2014...)