

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

ORDERING

INFORMATION

- ✧ Device: SD10U50SL
- ✧ Package: TO-277
- ✧ Marking: 10U50
- ✧ Material: Halogen free
- ✧ Packing: Tape & 13" Reel

PIN CONFIGURATION



MACHANICAL DATA

- ✧ Case: TO-277 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

APPLICATIONS

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

PACKAGE OUTLINE



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

Symbol	Parameter	Value	Units
V_{RRM}	Repetitive Peak Reverse Voltage	50	V
$I_{F(AV)}$	Average Forward Current	10	A
I_{FSM}	Peak Forward Surge Current, 8.3ms single half sine-wave	275	A
T_J & T_{STG}	Junction and Storage Temperature	-50~+150	°C

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

Parameter	Symbol	SD10U50SL	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	50	V
Working Peak Reverse Voltage	V_{RWM}		
DC blocking voltage	V_{DC}		
RMS Rectified Voltage	$V_{R(RMS)}$	35	V
Average Rectified Output Current (Note1)	$I_F(AV)$	10	A
Non-Repetitive Peak Forward Surge 8.3ms Single Half Sine-Wave Superimposed on rated load(JEDEC Method) (Note2)	I_{FSM}	275	A
I^2t Rating for Fusing (t < 8.3ms)	I^2t	313.844	A ² s
Forward Voltage Drop $T_A = 25^\circ C$ @ $I_F = 10A$	V_{FM}	0.45	V
Peak Reverse Current $T_A = 25^\circ C$ At Rated DC Blocking Voltage $T_A = 100^\circ C$	I_R	0.3 15	mA
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$ $R_{\theta JL}$	31 15	$^\circ C/W$
Operating junction temperature range	T_J	-55 to +150	$^\circ C$
storage temperature range	T_{STG}	-55 to +150	$^\circ C$

Note:1. Valid Provided that are kept at ambient temperature at a distance of 9.5mm from the case.

2. Fr-4pcb.2oz.Copper,minimum recommend pad layout .18.8mm×14.4.Anode pad dimensions 5.6mm×14.4mm.

ELECTRICAL CHARACTERISTICS CURVE

Fig.1 - Forward Current Derating Curve

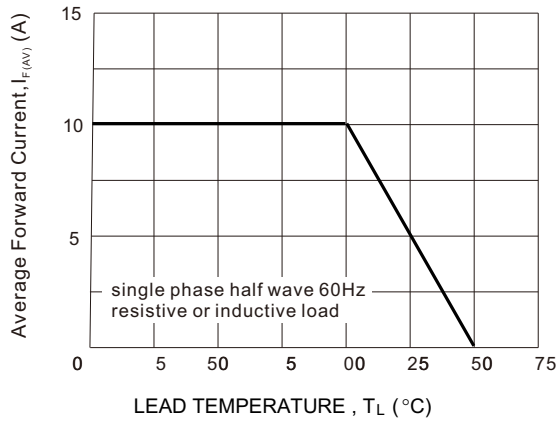


Fig.2 : Instantaneous Forward Voltage

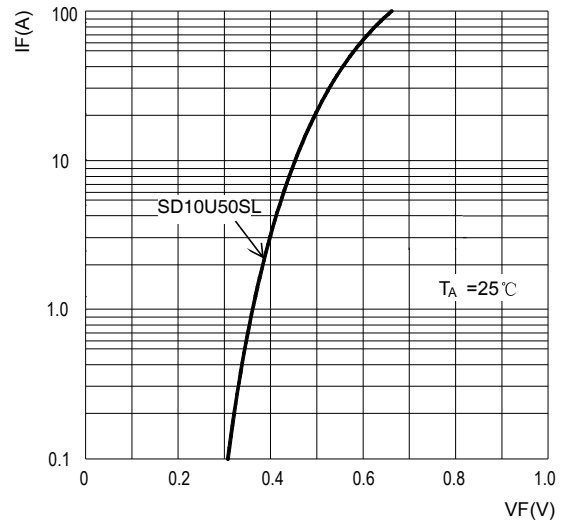


Fig.3: Surge Forward Current Capacity

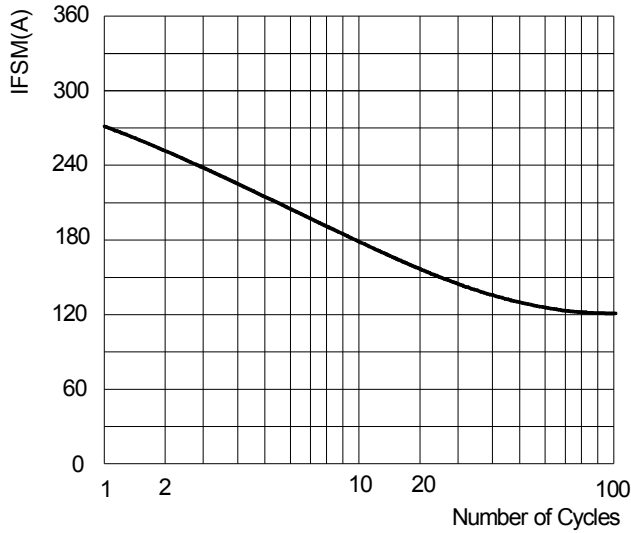
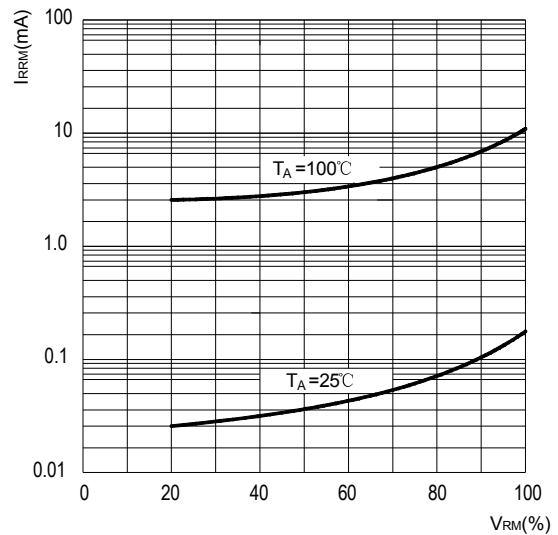
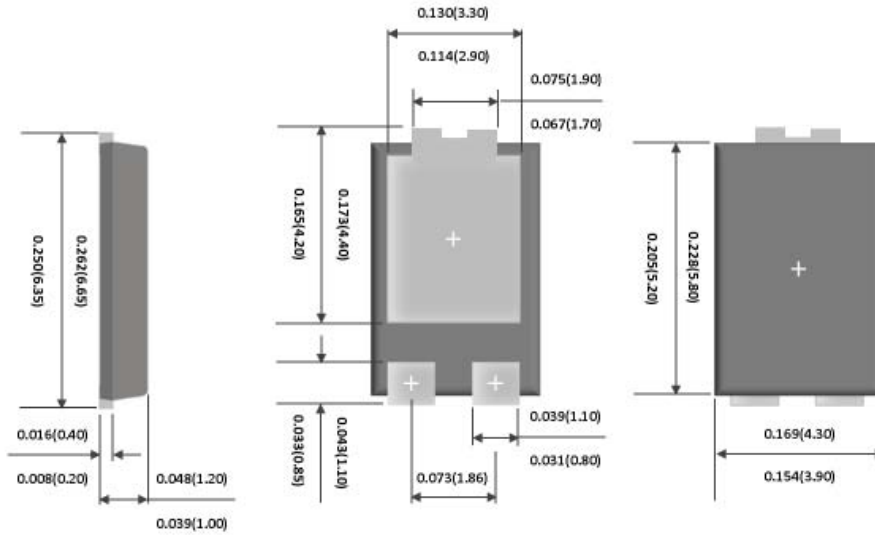


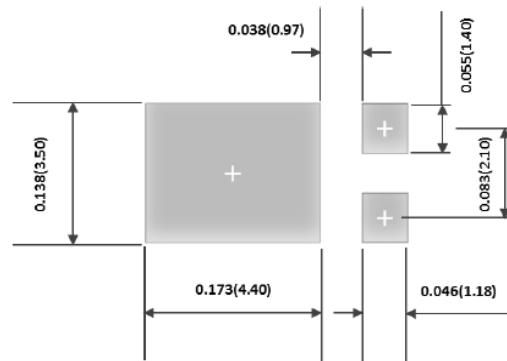
Fig.4: Typical Reverse Characteristics



TO-277 PACKAGE OUTLINE DIMENSIONS



FOOT PRINT RECOMMENDATION



unit: mm

PACKAGE INFORMATION

Device	Package	Shipping
SD10U50SL	TO-277	5000/Tape&Reel