Yea Shin Technology Co., Ltd.

Schottky Barrier Rectifier

YS10U45SL

10 Amperes 45 Volts

The Schottky Barrier Rectifier family

Data Sheet

YS Schottky Barrier Rectifier is a semiconductor diode with a low forward voltage drop and a very fast switching action. YS Schottky rectifiers have been used for several years in the power supply industry. The primary advantages are switching speeds that approach zero time and very low forward voltage drop. The reverse recovery time of Schottky diodes provides extremely fast recovery characteristics.

Features

- High current capability
- Ultra Low Forward Voltage Drop
- Low reverse current
- Low thermal resistance
- Excellent high temperature stability
- Low power loss and high efficiency
- High forward surge capability
- Low thermal resistance

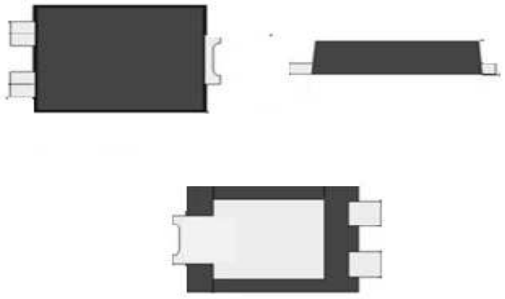
Application

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

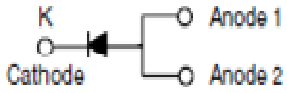
Mechanical Data

- TO-277 small outline plastic package
- Matte tin plated, solderable per MIL-STD-750, Method 2026, J-STD-002 and JESD 22-B102
- Molding Compound Flammability Rating:UL94-0 Low power loss and high efficiency
- High temperature soldering guaranteed: 260℃ 10second
- Packed with FRP substrate and epoxy underfilled
- Package Designed for Optimal automated
- circuit board assembly

TO-277



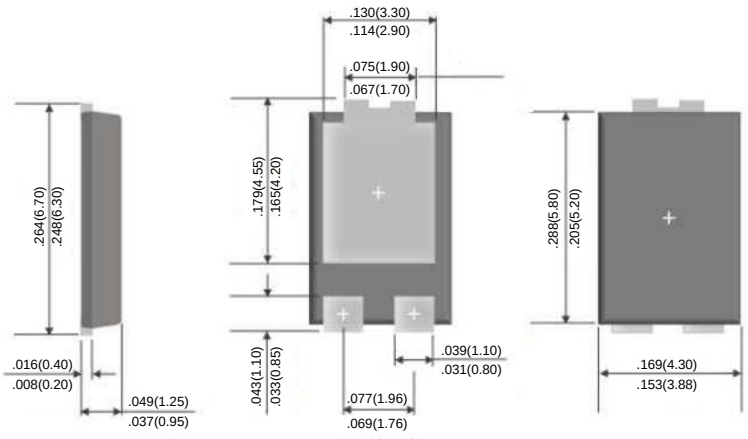
Pin Information



Primary Characteristics

V_{RRM}	45 V
V_F @ 10 A	0.42 V
I_F	10 A
I_{FSM}	280 A
Diode variation	Single

Package Outline Dimension Unit (mm)



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Maximum Ratings (T_A = 25 ℃ unless otherwise noted)

Parameter	Symbol	Value	Units
Repetitive peak reverse voltage	V_{RRM}	45	V
Average forward rectified current	$I_{F(AV)}$	10	A
Peak forward surge current, 8.3 ms single half sine-wave	I_{FSM}	280	A
Junction and storage temperature	T_J, T_{STG}	-40 ~ +150	℃

ELECTRICAL CHARACTERISTICS (T_A = 25 ℃ unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Forward voltage	V_F	I_F=3A		0.32	0.34	V
		I_F=8A		0.36	0.39	V
		I_F=10A		0.42	0.44	V
Reverse leakage current	I_R	V_R=45V			0.3	mA
Junction capacitance	C_J	f=1MHz, V_R=4V		600		pF

THERMAL CHARACTERISTICS (T_A = 25 ℃ unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Thermal Resistance (Note 1)	RΘJA			31		℃ / W

Note 1: Polymide PCB, 2oz copper. Cathode pad dimensions 18.8x14.4mm. Anode pad dimensions 5.6x14.4mm

Typical Performance Characteristics

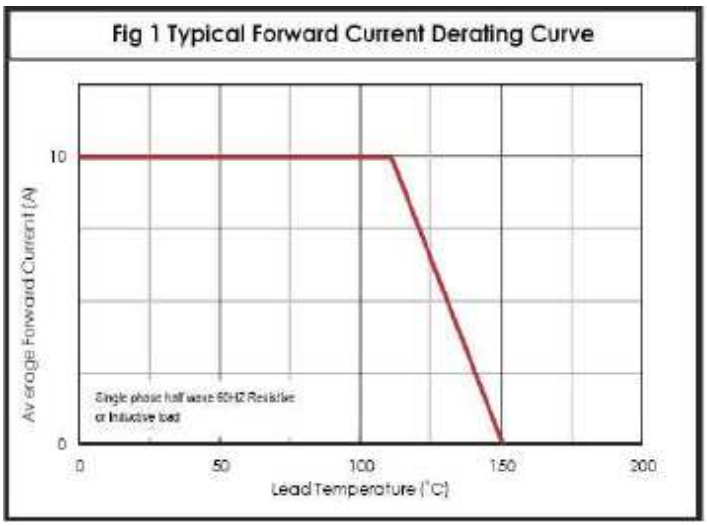


Fig1. Typical Forward Current Derating

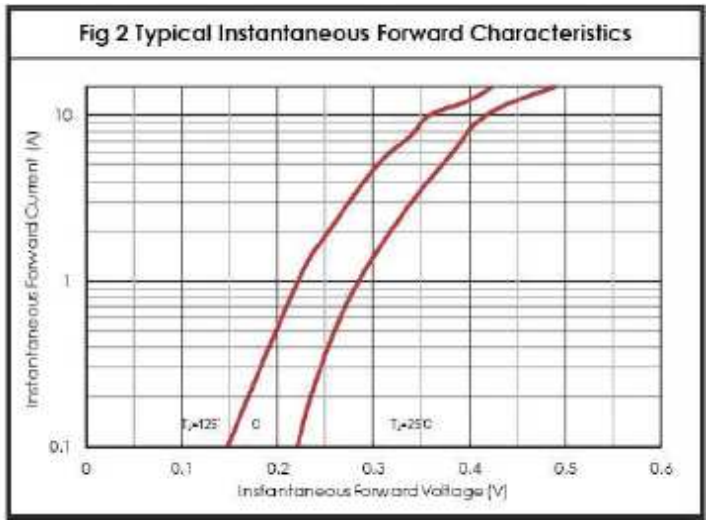


Fig2. Typical Instantaneous Forward Characteristics

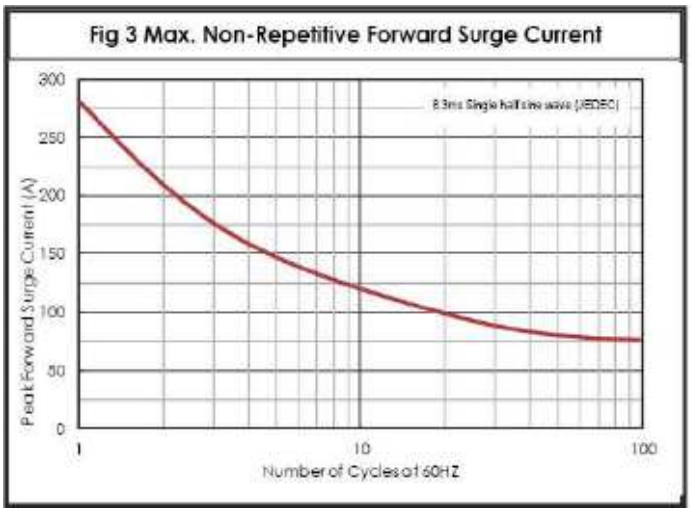


Fig3. Maximum Non-repetitive Forward Surge Current

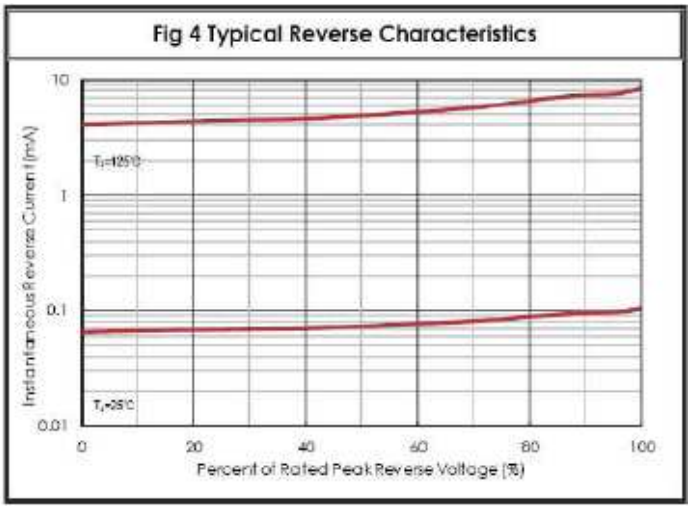
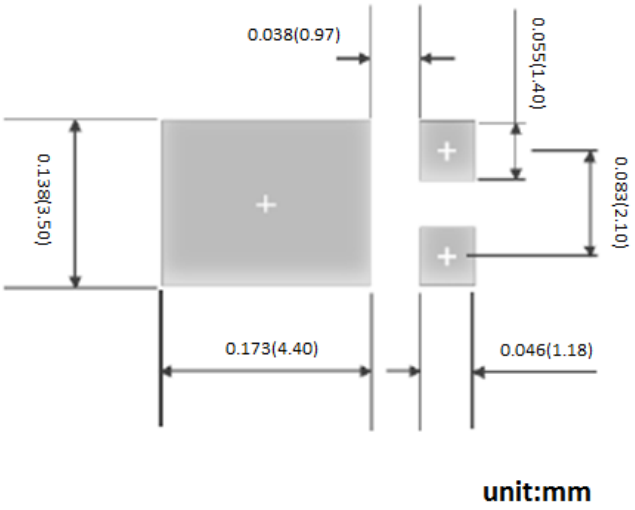


Fig4. Typical Reverse Characteristics

Foot Print Recommendation



Marking Code

YS	10U45SL	XXXX
Logo	Device name	Date code