



Yea Shin Technology Co., Ltd.

提供技术交流

Schottky Barrier Rectifier

YS10U45SL

10 Amperes 45 Volts

## The Schottky Barrier Rectifier family

Data Sheet

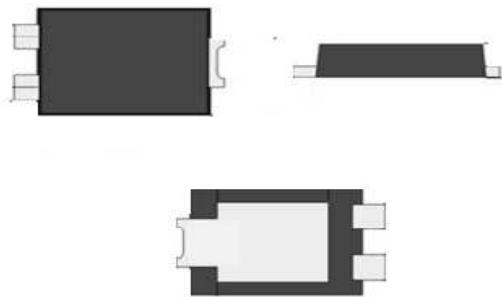
*YS Schottky Barrier Rectifier is a semiconductor diode with a low forward voltage drop and a very fast switching action. YS Schottky rectifiers have been used for several years in the power supply industry. The primary advantages are switching speeds that approach zero time and very low forward voltage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

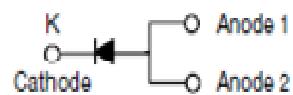
### TO-277



### Pin Information

### Application

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



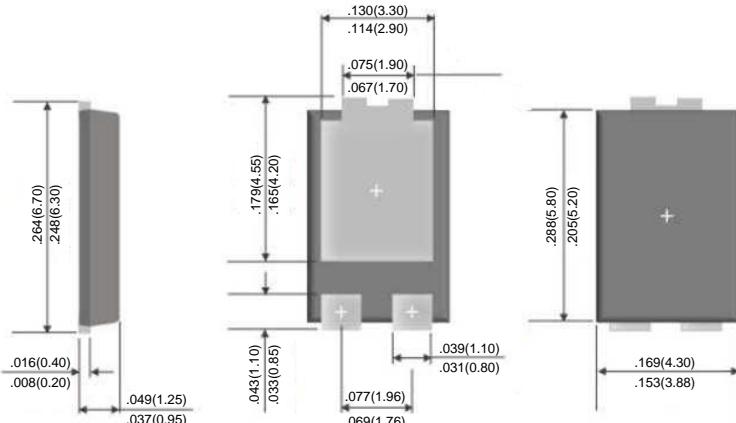
### Mechanical Data

- 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°C 10second
- Packed with FRP substrate and epoxy underfilled
- Package Designed for Optimal automated circuit board assembly

### 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)





QQ1481000462

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**Maximum Ratings** ( $T_A = 25^\circ\text{C}$  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	°C

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

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

**THERMAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Thermal Resistance (Note 1)	$\theta_{JJA}$			31		°C / W

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

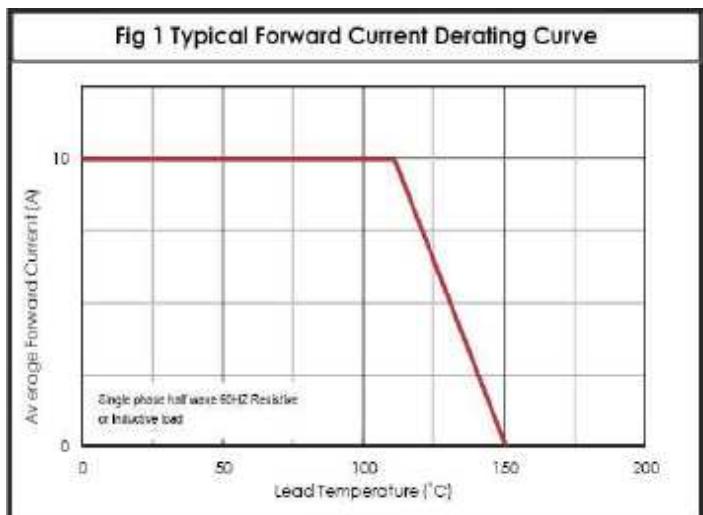
**Typical Performance Characteristics**

Fig1. Typical Forward Current Derating

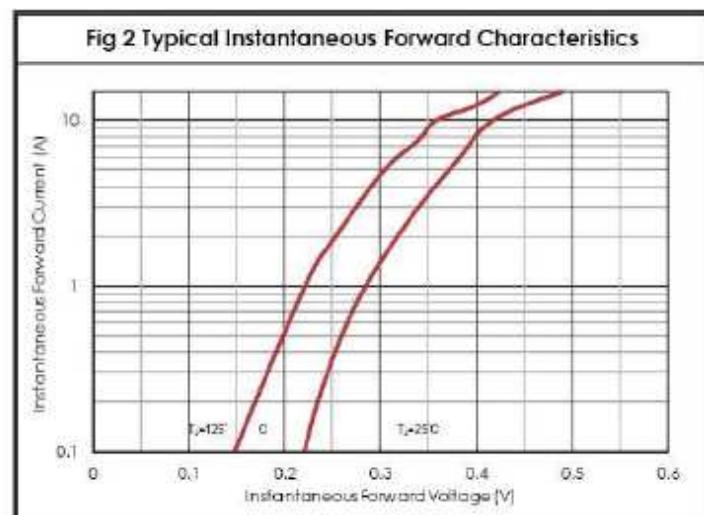


Fig2. Typical Instantaneous Forward Characteristics



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Fig 3 Max. Non-Repetitive Forward Surge Current

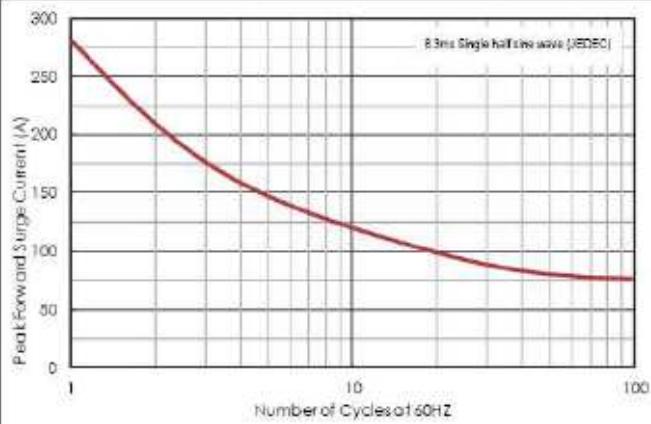


Fig3. Maximum Non-repetitive Forward Surge Current

Fig 4 Typical Reverse Characteristics

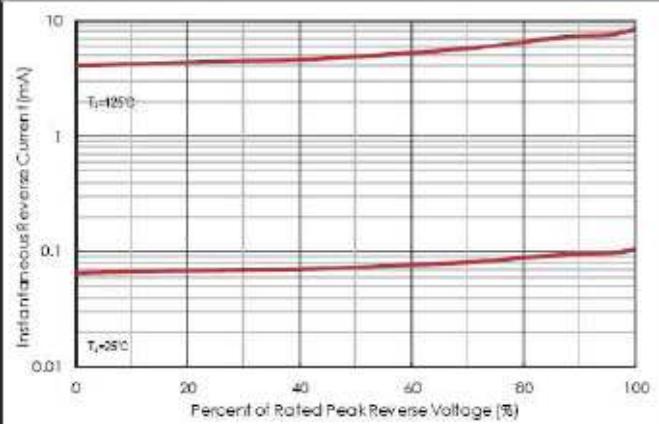
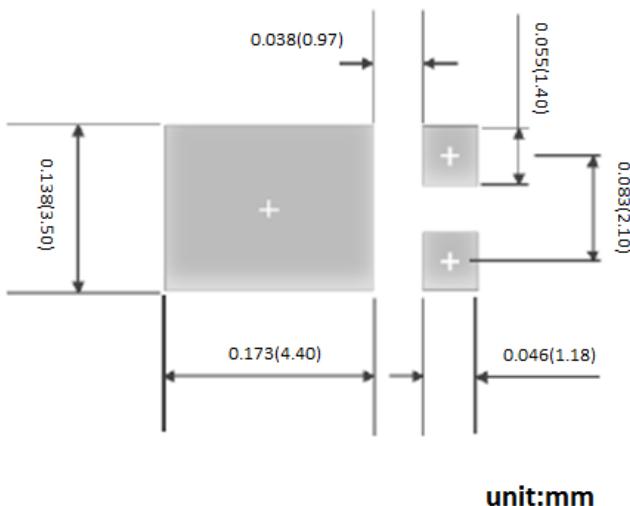
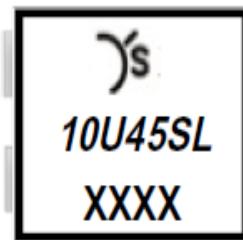


Fig4. Typical Reverse Characteristics

## Foot Print Recommendation



## Marking Code



YS	10U45SL	XXXX
Logo	Device name	Date code