

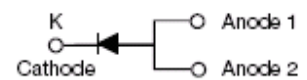
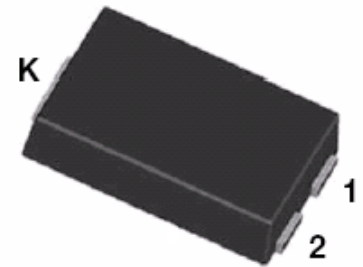
## ST1040S SCHOTTKY RECTIFIER

### Applications:

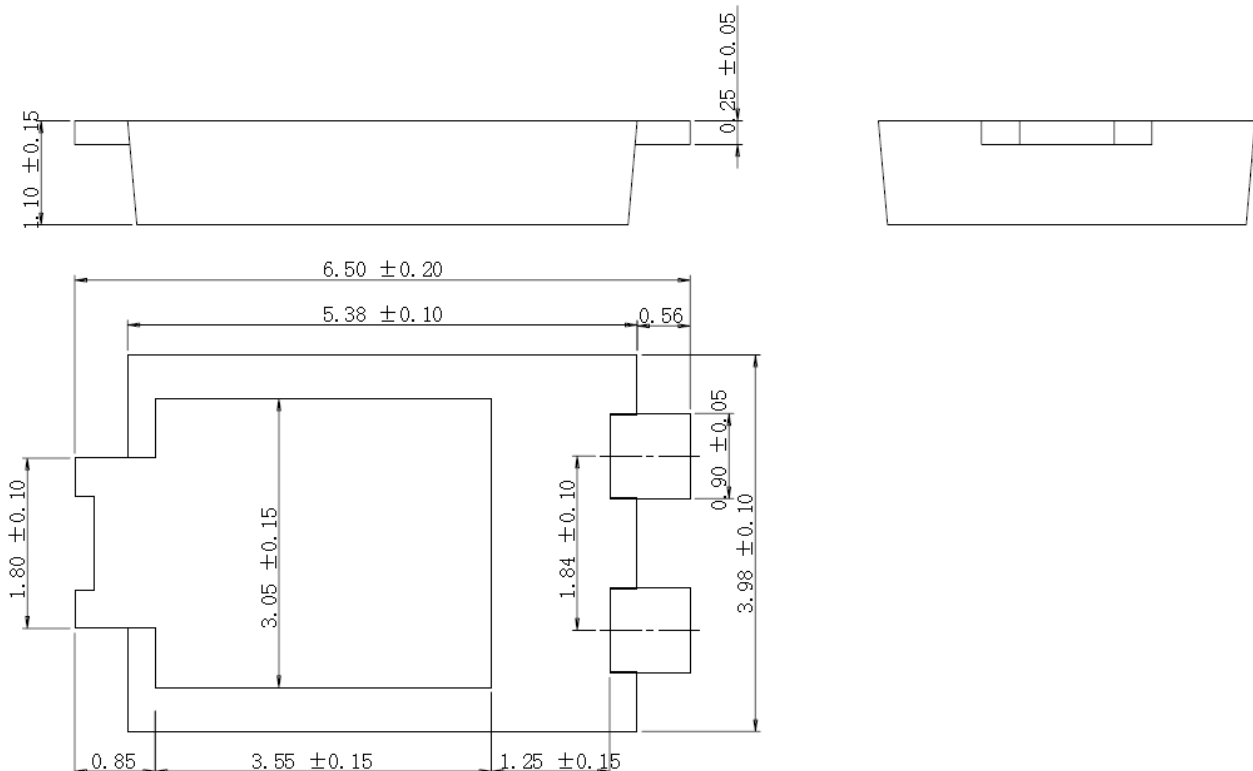
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

### Features:

- 150 °C T<sub>J</sub> operation
- Center tap configuration
- Ultralow forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request



### Mechanical Dimensions: In mm



### TO-277B

**Marking Diagram:**


Where XXXXX is YYWWL

S	= Device Type
T	= Ultralow VF
10	= Forward Current (10)
40	= Reverse Voltage (40V)
S	= Package type
YY	= Year
WW	= Week
L	= Lot Number

**Cautions:** Molding resin  
 Epoxy resin UL:94V-0

**Ordering Information:**

Device	Package	Shipping
ST1040S	TO-277B (Pb-Free)	5000pcs/ reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

**Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	$V_{RWM}$	-	40	V
Average Forward Current (Note 1) (per device)	$I_{F(AV)}$	50% duty cycle @ $T_M = 121^\circ\text{C}$ rectangular wave form	10	A
Peak One Cycle Non- Repetitive Surge Current (per leg)	$I_{FSM}$	8.3 ms, half Sine pulse	150	A

Note: 1. Mounted on 30 mm x 30 mm pad areas aluminum PCB

**Electrical Characteristics:**

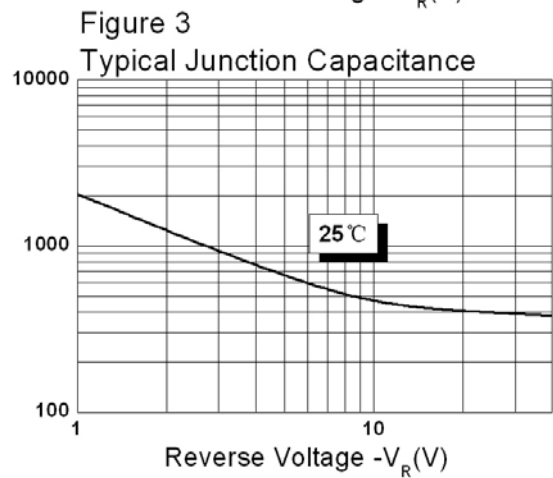
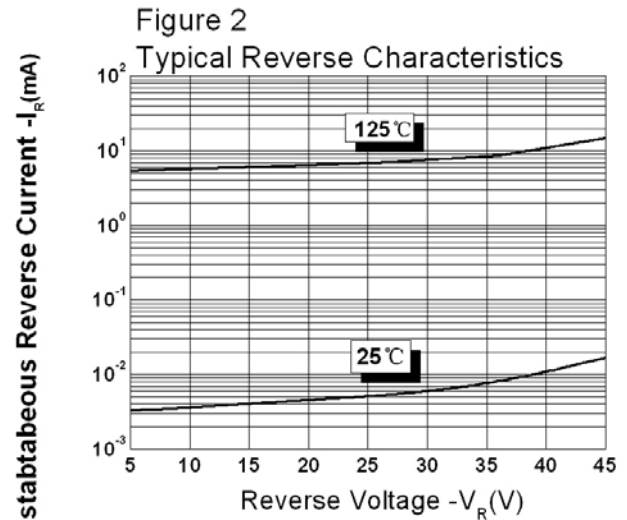
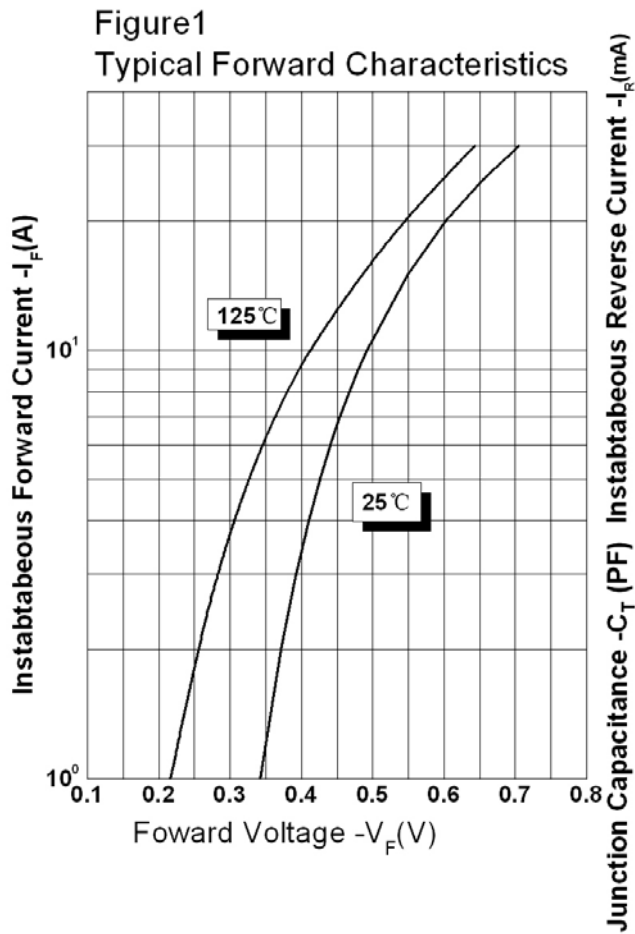
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	$V_{F1}$	@ 5A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.40	0.51	V
		@ 10A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.46	0.57	
	$V_{F2}$	@ 5A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.30	0.43	V
		@ 10A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.37	0.50	
Reverse Current (per leg)	$I_{R1}$	@ $V_R = 40\text{V}$ $T_J = 25\text{ }^\circ\text{C}$	0.15	0.80	mA
Reverse Current (per leg) *	$I_{R2}$	@ $V_R = 40\text{V}$ $T_J = 125\text{ }^\circ\text{C}$	78	100	mA
Junction Capacitance (per leg)	$C_T$	@ $V_R = 5\text{V}$ , $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	579	-	pF

\* Pulse Width < 300 $\mu\text{s}$ , Duty Cycle <2%

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	-	-55 to +150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-	-55 to +150	$^\circ\text{C}$
Typical Thermal Resistance (Note 1)	$R_{\theta JM}$	DC operation	4	$^\circ\text{C/W}$
Approximate Weight	wt	-	0.08	g
Case Style	TO-227B			

Note: 1. Mounted on 30 mm x 30 mm aluminum PCB; thermal resistance  $R_{\theta JM}$  - junction to mount



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