

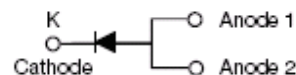
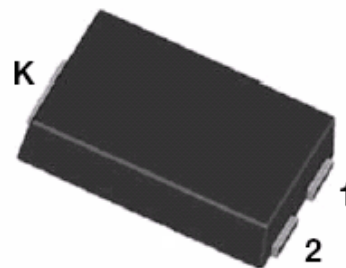
## ST860S SCHOTTKY RECTIFIER

### Applications:

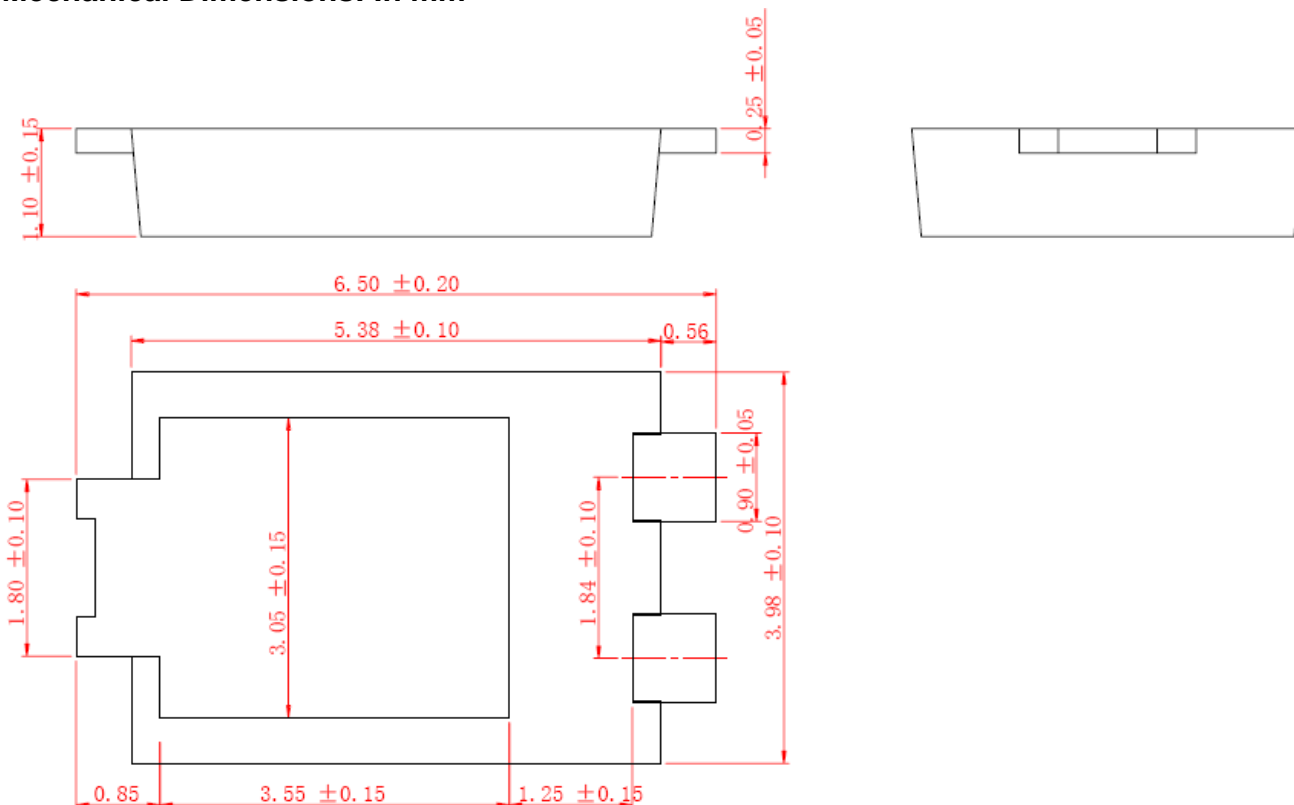
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

### 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 Halogen Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request



### Mechanical Dimensions: In mm



### TO-277B

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - [sales@smc-diodes.com](mailto:sales@smc-diodes.com) •

**Marking Diagram:**


Where XXXXX is YYWWL

ST	= Ultralow VF
8	= Forward Current (8A)
60	= Reverse Voltage (60V)
S	= Package type
YY	= Year
WW	= Week
L	= Lot Number

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

**Ordering Information:**

Device	Package	Shipping
ST860S	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 Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	-	60	V
Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_L = 125\text{ }^\circ\text{C}$ rectangular wave form	8	A
Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3 ms, half Sine pulse	140	A



**Electrical Characteristics:**

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V <sub>F1</sub>	@ 4A, Pulse, T <sub>J</sub> = 25 °C	0.42	-	V
		@ 8A, Pulse, T <sub>J</sub> = 25 °C	0.50	0.61	
	V <sub>F2</sub>	@ 4A, Pulse, T <sub>J</sub> = 125 °C	0.34	-	V
		@ 8A, Pulse, T <sub>J</sub> = 125 °C	0.44	0.55	
Reverse Current*	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 25 °C	0.02	0.6	mA
Reverse Current*	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 125 °C	10	25	mA
Junction Capacitance	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C f <sub>SIG</sub> = 1MHz	502	-	pF

\* Pulse Width < 300µs, Duty Cycle <2%

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T <sub>J</sub>	-	-55 to +150	°C
Storage Temperature	T <sub>stg</sub>	-	-55 to +150	°C
Typical Thermal Resistance Junction to Ambient (NOTE1)	R <sub>θJA</sub>	DC operation	75	°C/W
Typical Thermal Resistance Junction to Lead (NOTE1)	R <sub>θJL</sub>	DC operation	4	°C/W
Approximate Weight	wt	-	0.08	g
Case Style	TO-277B			

NOTE: 1. Units mounted on P.C.B., 0.5 x 0.5" (30 x 30mm) copper pads.

Figure 1  
Typical Forward Characteristics

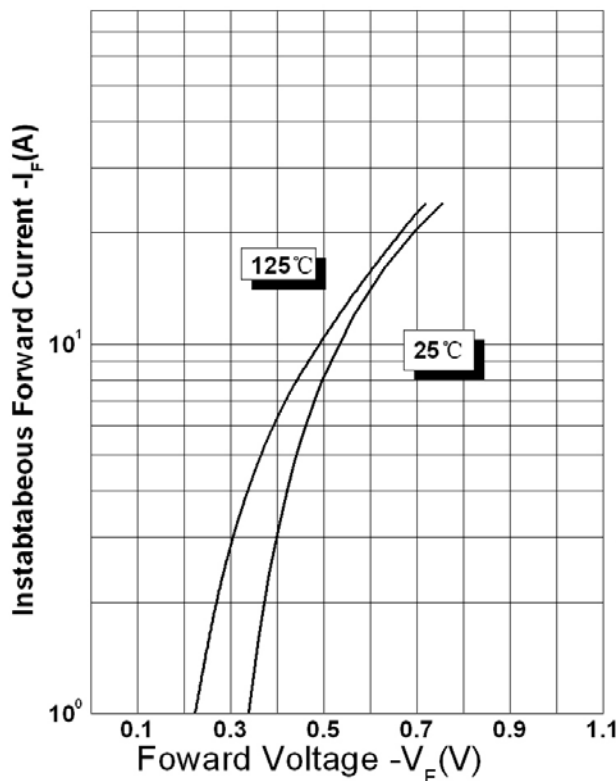


Figure 2  
Typical Reverse Characteristics

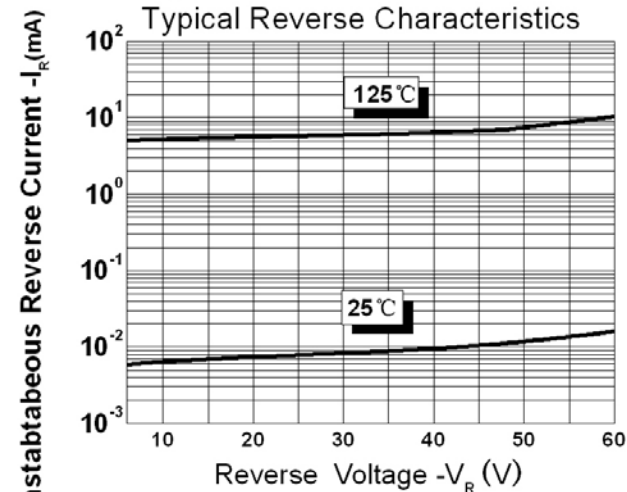
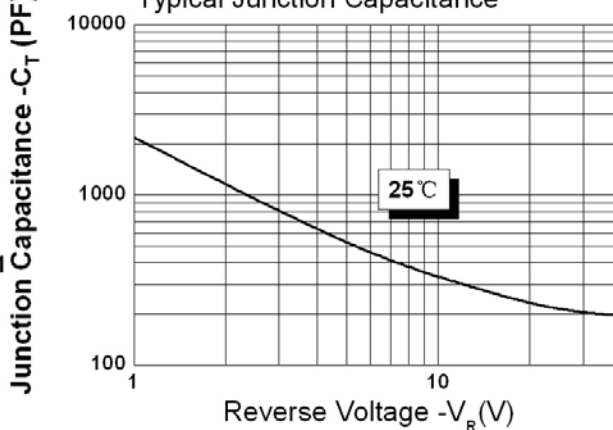


Figure 3  
Typical Junction Capacitance





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