

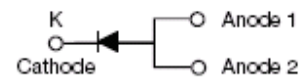
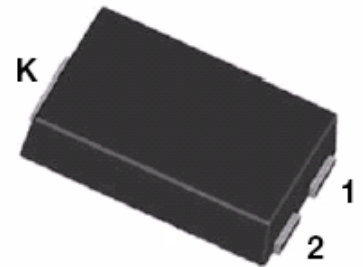
ST2050S SCHOTTKY RECTIFIER

Applications:

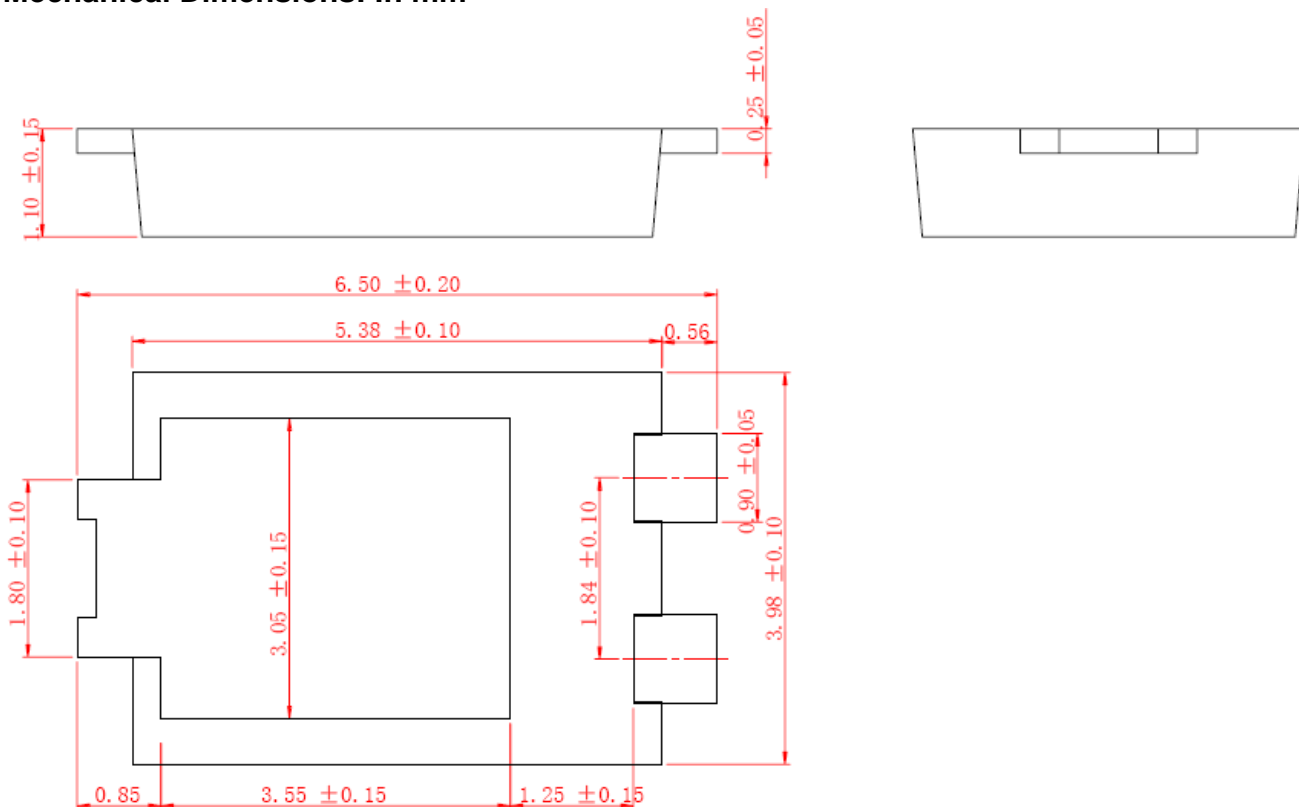
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Features:

- 150 °C T_J 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

Marking Diagram:


Where XXXXX is YYWWL

S	= Device Type
T	= Ultralow VF
20	= Forward Current (20)
50	= Reverse Voltage (50V)
S	= Package type
YY	= Year
WW	= Week
L	= Lot Number

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

Ordering Information:

Device	Package	Shipping
ST2050S	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	-	50	V
Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_L=125\text{ }^\circ\text{C}$ rectangular wave form	20	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	250	A



Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 20A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.65	V
	V_{F2}	@ 20A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.60	V
Reverse Current (per leg)	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25\text{ }^\circ\text{C}$	4	mA
Reverse Current (per leg) *	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125\text{ }^\circ\text{C}$	180	mA

* Pulse Width < 300 μs , 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 Junction to Ambient (NOTE1)	$R_{\theta JA}$	DC operation	75	$^\circ\text{C/W}$
Typical Thermal Resistance Junction to Lead (NOTE1)	$R_{\theta JL}$	DC operation	4	$^\circ\text{C/W}$
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

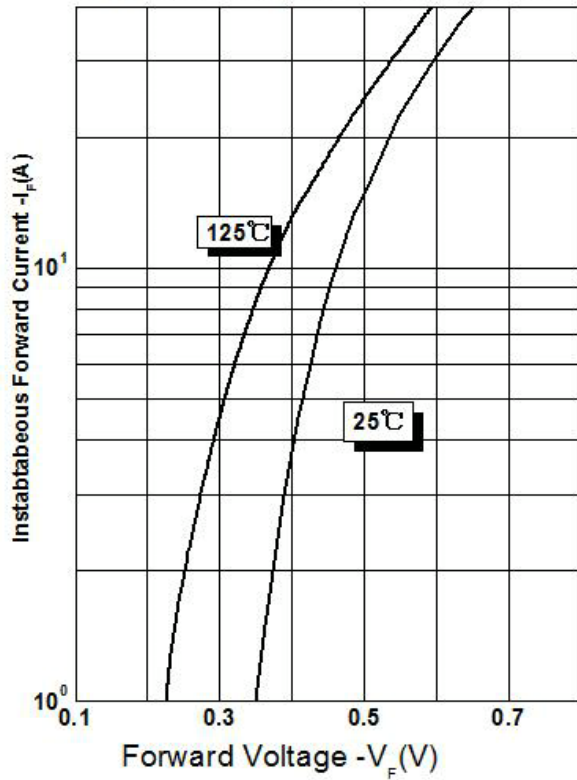


Figure 2
Typical Reverse Characteristics

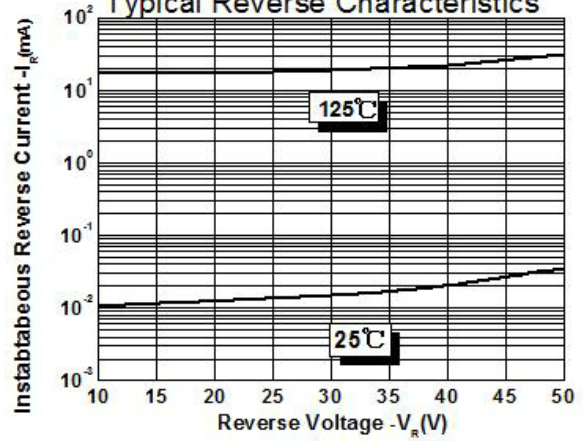
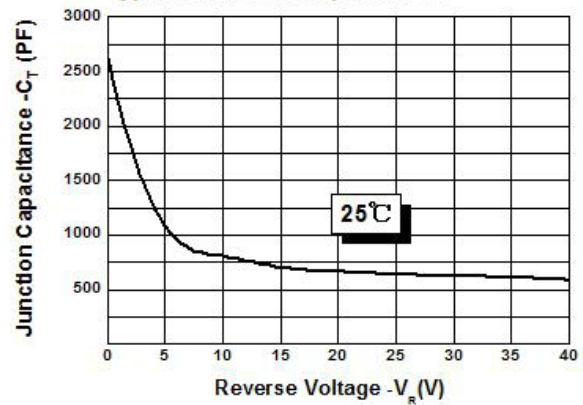


Figure 3
Typical Junction Capacitance





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