

Marking Diagram:


Where XXXXX is YYWWL

S	= Device Type
T	= Ultralow VF
10	= Forward Current (10)
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
ST1050S	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	V_{RRM}	-	50	V
Working Peak Reverse Voltage	V_{RWM}			
DC Blocking Voltage	V_R			
Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_L = 125^\circ\text{C}$ rectangular wave form	10	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	150	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 5A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.40	0.48	V
		@ 10A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.47	0.55	
	V_{F2}	@ 5A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.30	0.39	V
		@ 10A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.40	0.49	
Reverse Current (per leg)	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25\text{ }^\circ\text{C}$	0.05	1.5	mA
Reverse Current (per leg) *	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125\text{ }^\circ\text{C}$	32	85	mA

* Pulse Width < 300 μ 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 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

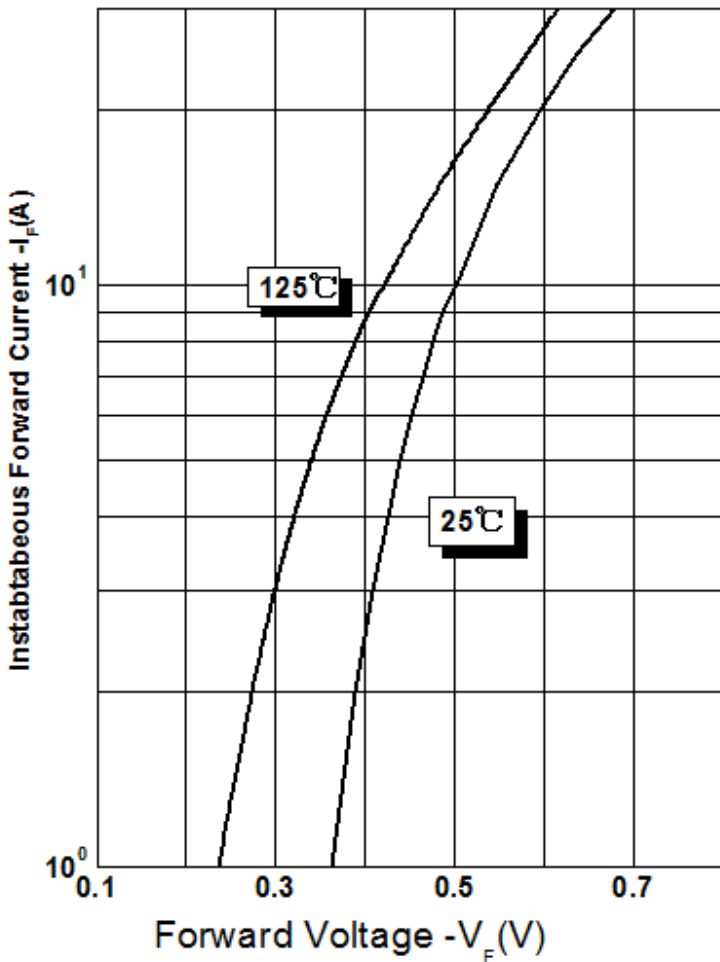


Figure 2
Typical Reverse Characteristics

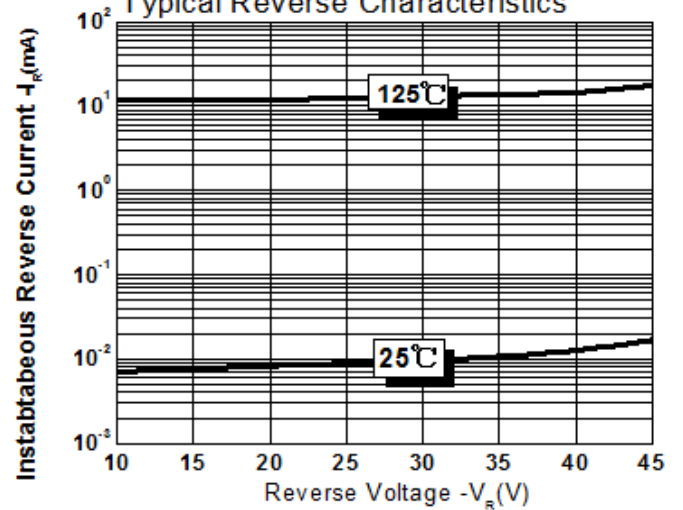
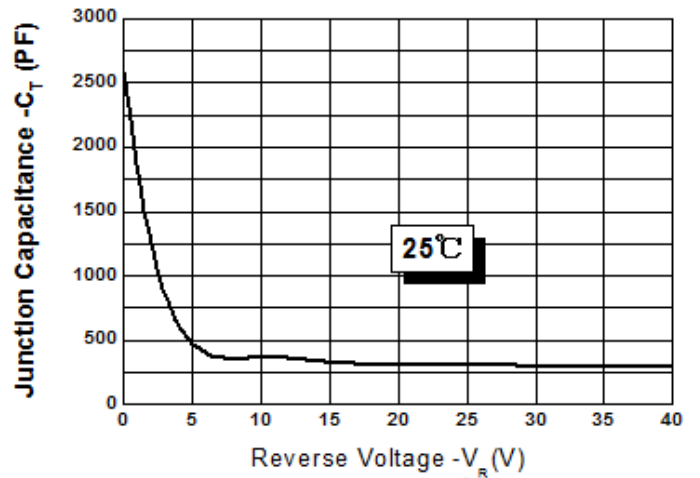


Figure 3
Typical Junction Capacitance





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