

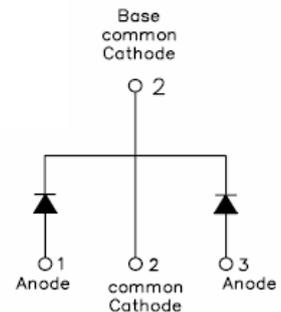
ST40100C SCHOTTKY RECTIFIER

Applications:

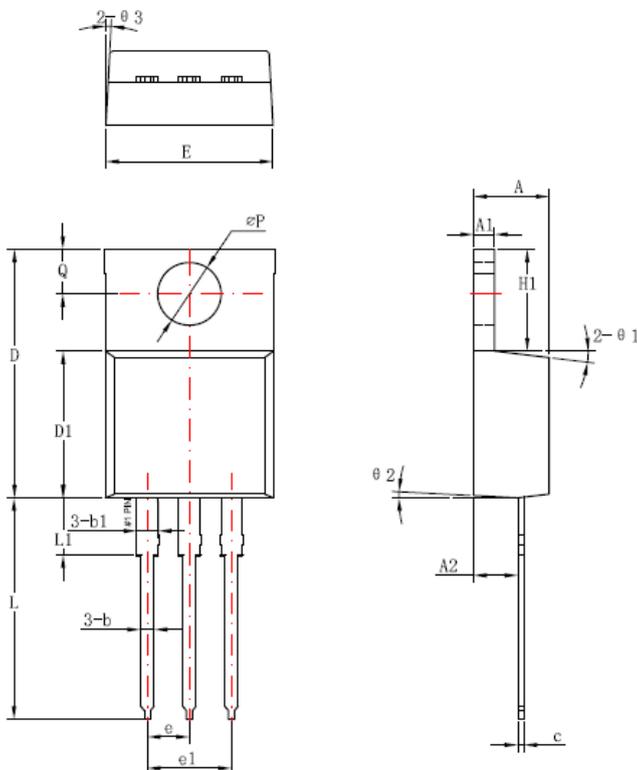
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

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



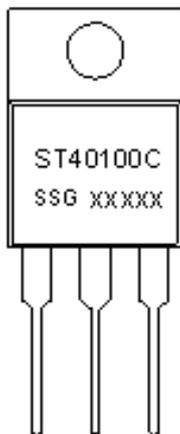
Mechanical Dimensions: In mm



Symbol	Dimensions in millimeters		
	Min	Typical	Max
A	4.42	4.57	4.72
A1	1.17	1.27	1.37
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
D	14.94	15.24	15.54
D1	8.85	9.00	9.15
E	10.01	10.16	10.31
e		2.54	
e1		5.06	
H1	6.04	6.24	6.44
L	12.7	13.56	13.78
L1		3.5	
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
θ1		7°	
θ2		3°	
θ3		4°	

TO-220AB

Marking Diagram:



Where XXXXX is YYWWL

S = Device Type
T = Ultralow VF
40 = Forward Current (40A)
100 = Reverse Voltage (100V)
C = Configuration
SSG = SSG
YY = Year
WW = Week
L = Lot Number

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

Ordering Information:

Device	Package	Shipping
ST40100C	ITO-220AB (Pb-Free)	50pcs / tube

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}	-	100	V
Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C=105\text{ }^\circ\text{C}$ rectangular wave form	40	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	300	A



Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (per leg)*	V _{F1}	@ 5A, Pulse, T _J = 25 °C	0.47	-	V
		@ 10A, Pulse, T _J = 25 °C	0.54	-	
		@ 20A, Pulse, T _J = 25 °C	0.68	0.75	
	V _{F2}	@ 5A, Pulse, T _J = 125 °C	0.38	-	V
		@ 10A, Pulse, T _J = 125 °C	0.51	-	
		@ 20A, Pulse, T _J = 125 °C	0.64	0.70	
Reverse Current at DC condition (per leg)	I _{R1}	@V _R = 70V, T _J = 25 °C @V _R = 100V, T _J = 25 °C	0.012 0.030	- 1	mA
Reverse Current (per leg) *	I _{R2}	@V _R = 70V, T _J = 125 °C @V _R = 100V, T _J = 125 °C	10 15	- 75	mA
Junction Capacitance (per leg)	C _T	@V _R = 5V, T _C = 25 °C f _{SIG} = 1MHz	845	-	pF

* Pulse Width < 300µs, Duty Cycle <2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T _J	-	-55 to +150	°C
Storage Temperature	T _{stg}	-	-55 to +150	°C
Maximum Thermal Resistance Junction to Case (per leg)	R _{θJC}	DC operation	2.0	°C/W
Approximate Weight	wt	-	2	g
Case Style	TO-220AB			

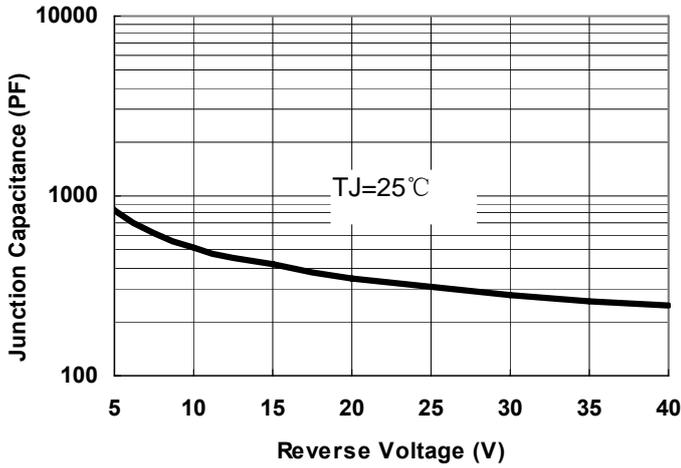


Fig.1-Typical Junction Capacitance

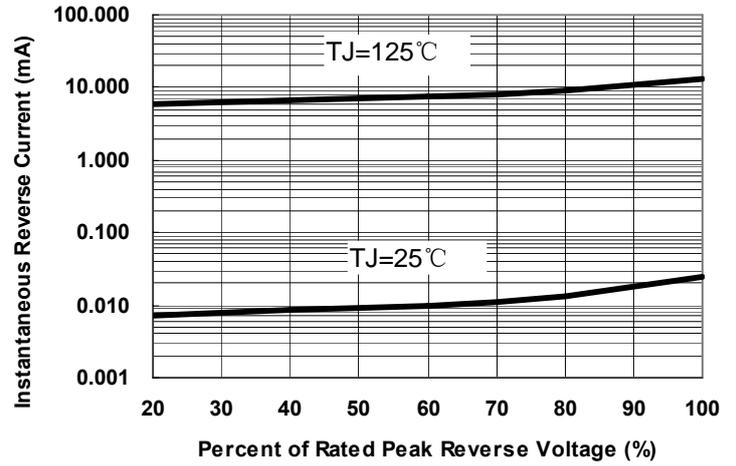


Fig.2-Typical Reverse Characteristics

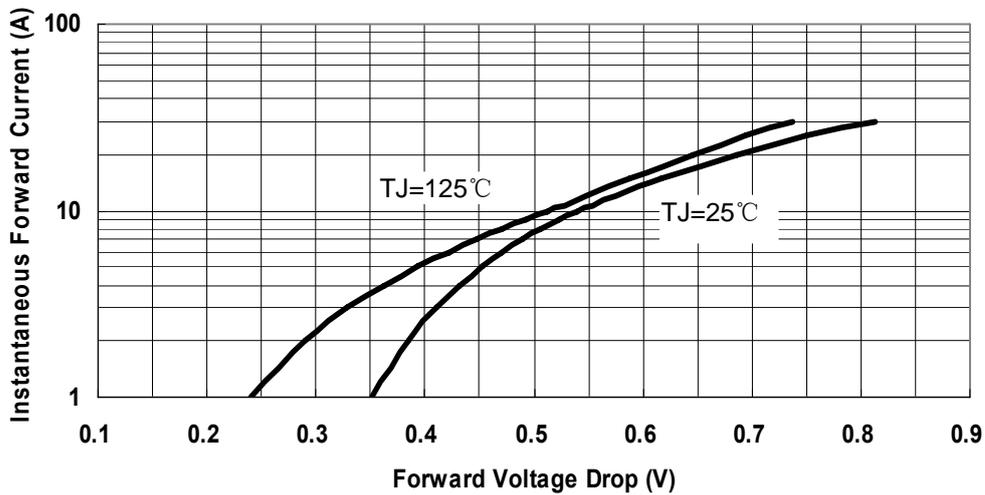


Fig.3-Typical Instantaneous Forward Voltage Characteristics



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