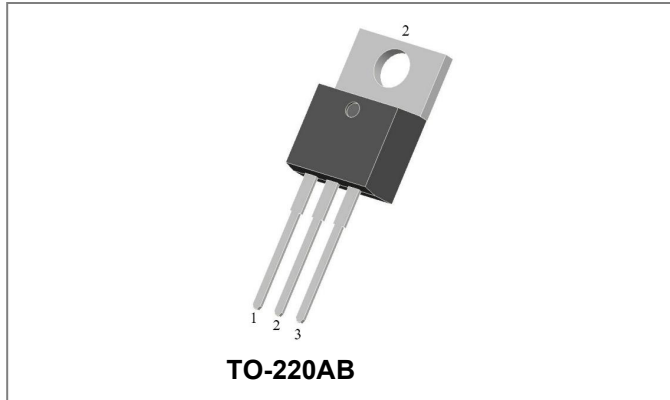


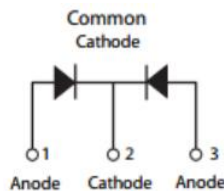
ST40300C SCHOTTKY RECTIFIER



Features

- 175 °C T_J operation
- Ultralow forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Trench MOS Schottky technology
- Terminals finish: 100% Pure Tin
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Applications

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

Maximum Ratings(limiting values, at 25 °C unless otherwise specified):

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	V _{RRM}	-	300	V
Working Peak Reverse Voltage	V _{RWM}			
DC Blocking Voltage	V _R			
Average Rectified Forward Current	I _{F(AV)}	50% duty cycle @T _c =140°C, rectangular wave form	20(Per Leg) 40(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I _{FSM}	8.3ms, Half Sine pulse	235	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Per Leg)*	V _{F1}	@ 20A, Pulse, T _J = 25 °C	0.89	0.92	V
	V _{F2}	@ 20A, Pulse, T _J = 125 °C	0.76	0.82	V
Reverse Current(Per Leg)*	I _{R1}	@V _R = rated V _R , T _J = 25°C	0.4	100	uA
	I _{R2}	@V _R = rated V _R , T _J = 125°C	0.09	10	mA

* Pulse width < 300 μs, duty cycle < 2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +175	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-	-55 to +175	$^{\circ}\text{C}$
Typical Thermal Resistance Junction to Case	$R_{\theta\text{JC}}$	DC operation	2.2	$^{\circ}\text{C/W}$

Ratings and Characteristics Curves

Figure 1
Typical Forward Characteristics

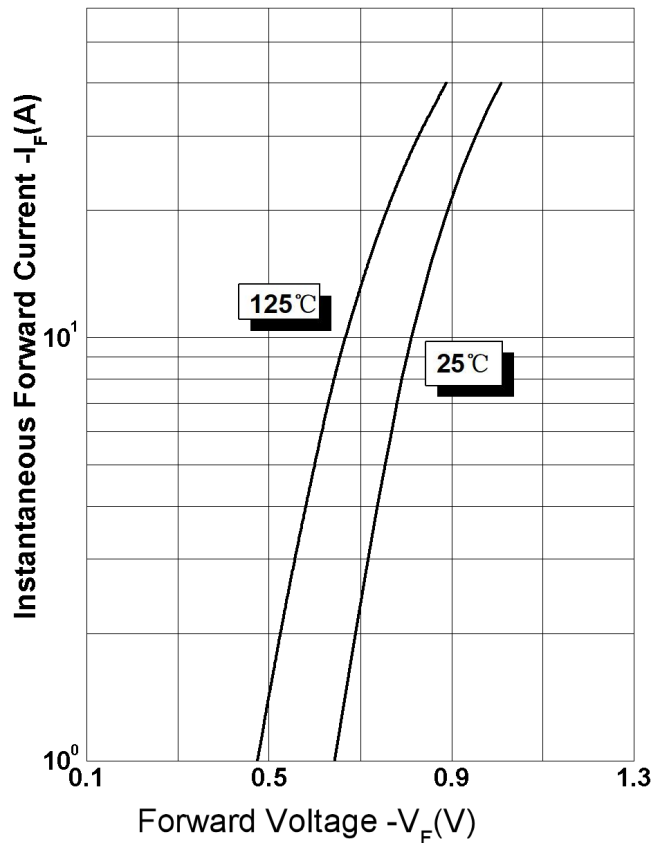


Figure 2
Typical Reverse Characteristics

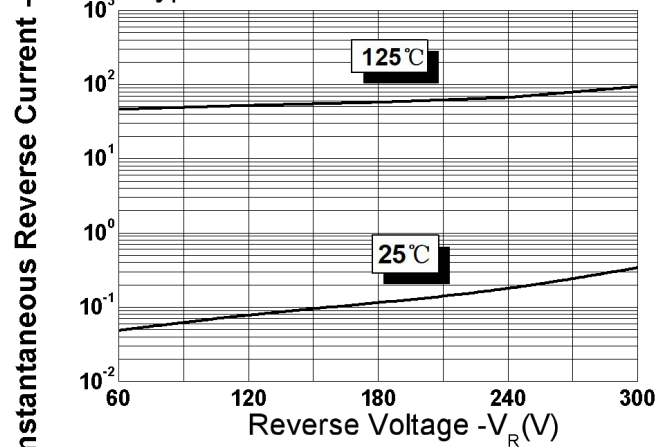
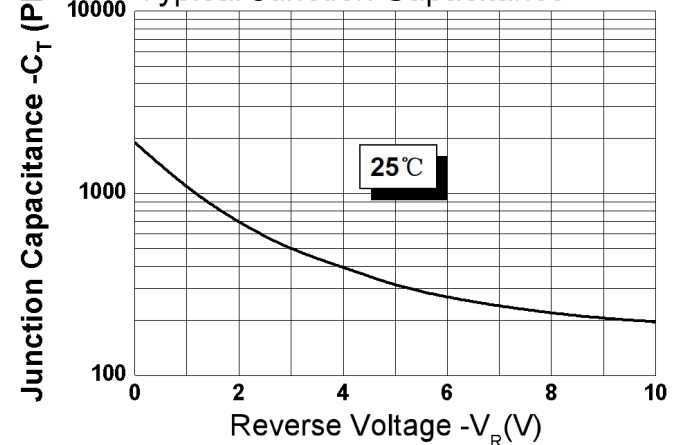


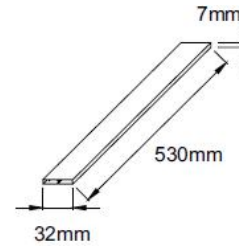
Figure 3
Typical Junction Capacitance



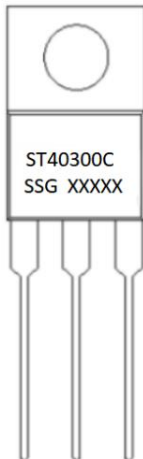
Tube Specification

Tube Specification(TO-220AB)

Device	Package	Weight	Shipping
ST40300C	TO-220AB	2.0	50pcs / tube



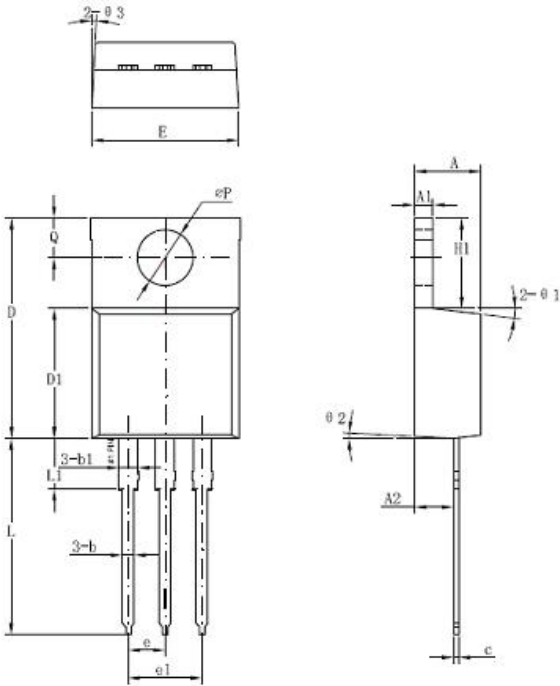
Marking Diagram



Where XXXXX is YYWWL

- ST = Device Type
- 40 = Forward Current (40A)
- 300 = Reverse Voltage (300V)
- C = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

Mechanical Dimensions TO-220AB



Symbol	Dimensions in millimeters		
	Min	Typical	Max
A	3.56	-	4.83
A1	0.51	-	1.4
A2	2.03	-	2.92
b	0.38	-	1.02
b1	1.14	-	1.78
c	0.31	-	0.61
D	14.22	-	16.51
D1	8.38	-	9.42
E	9.65	-	10.67
e	-	2.54	-
e1	-	5.08	-
H1	5.84	-	6.86
L	12.7	-	14.73
L1	-	-	6.35
ΦP	-	3.56	-
Q	2.54	-	3.43

Technical Data
Data Sheet N2589, REV.-



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