

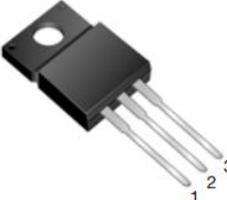
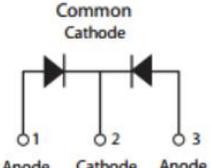
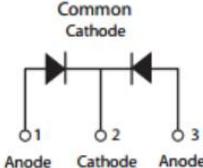
ST20L45C/STF20L45C SCHOTTKY RECTIFIER

Applications

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

Features

- 150 °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

ST20L45C	STF20L45C
	
	
TO-220AB	ITO-220AB

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	45	V
Average Rectified Forward Current	$I_{F(AV)}$	$T_c=134^{\circ}\text{C}(\text{TO-220AC})$ $T_c=118^{\circ}\text{C}(\text{ITO-220AC})$	10(Per Leg) 20(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I_{FSM}	8.3ms, Half Sine pulse, $T_c=25^{\circ}\text{C}$	275	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Per Leg)*	V_{F1}	@ 10A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.46	0.53	V
	V_{F2}	@ 10A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.37	0.45	V
Reverse Current(Per Leg)*	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25\text{ }^\circ\text{C}$	0.03	2	mA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125\text{ }^\circ\text{C}$	12	30	mA
Junction Capacitance(Per Leg)	C_T	@ $V_R = 5\text{V}$, $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	940	-	pF

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

Thermal-Mechanical Specifications:

Characteristics	Symbol	ST20L45C	STF20L45C	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 Case(Per Leg)	$R_{\theta JC}$	3	6	$^\circ\text{C/W}$

Ratings and Characteristics Curves

Figure 1 Typical Forward Characteristics

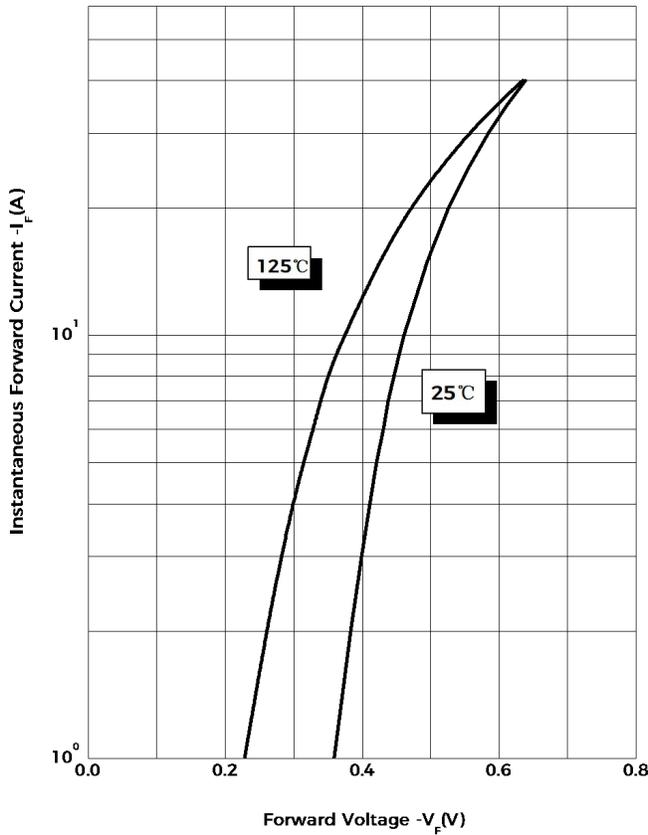


Figure 2 Typical Reverse Characteristics

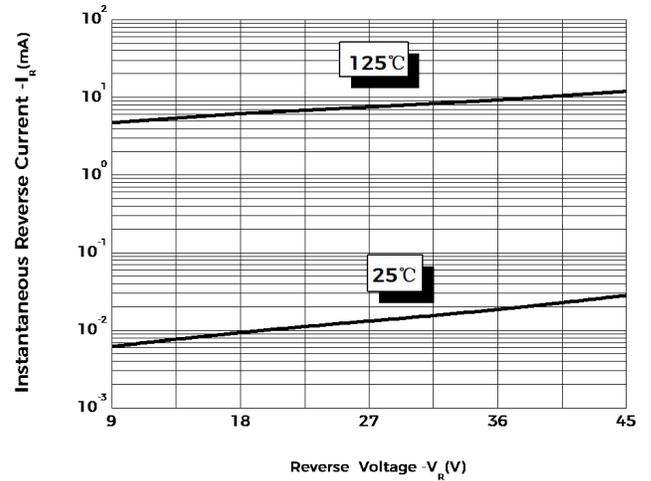
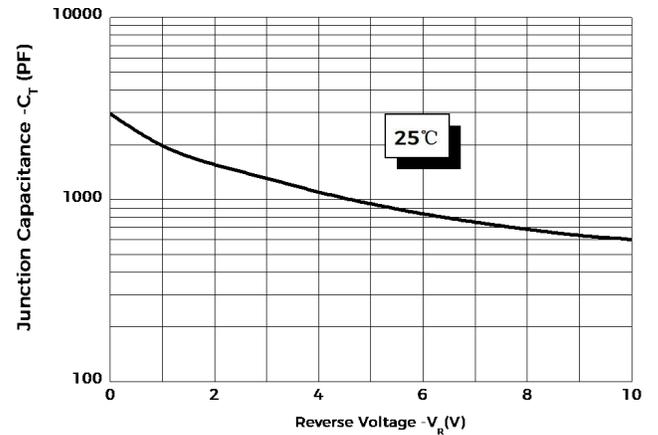


Figure 3 Typical Junction Capacitance

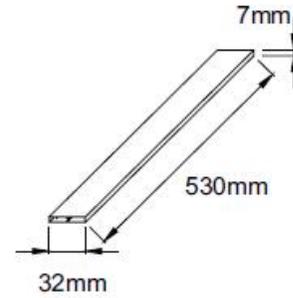


Tube Specification

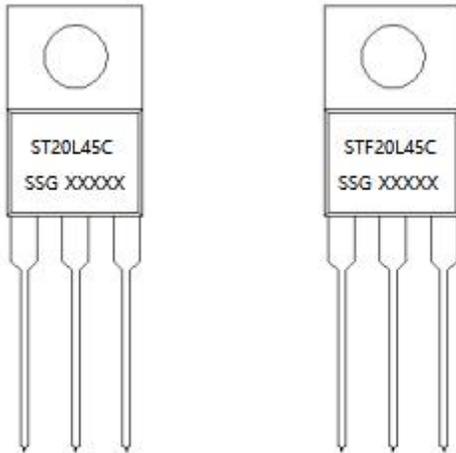
Device	Package	Weight	Shipping
ST20L45C	TO-220AB	2.0	50pcs / tube
STF20L45C	ITO-220AB	2.0	50pcs / tube

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Tube Specification



Marking Diagram

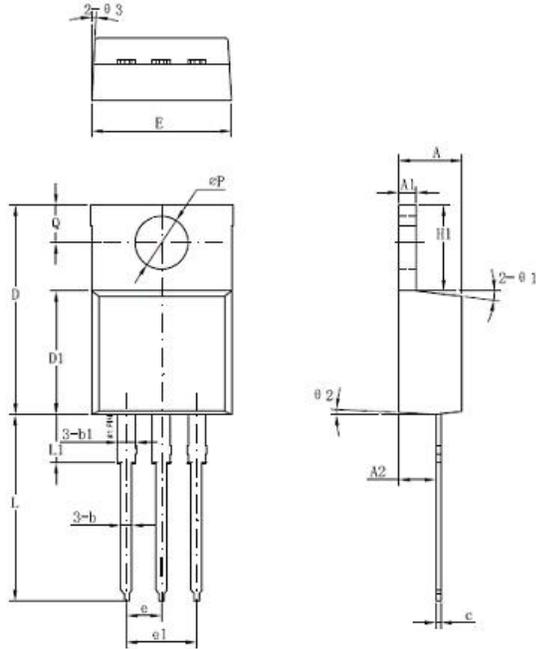


Where XXXXX is YYWWL

- ST = Device Type
- F = Package type
- 20 = Forward Current (20A)
- L = L
- 45 = Reverse Voltage (45V)
- C = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

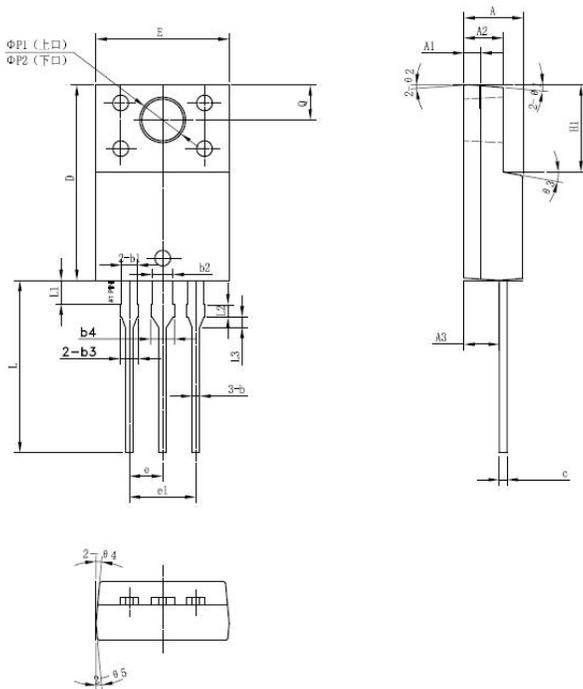
Cautions: Molding resin
Epoxy resin UL94V-0

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

Mechanical Dimensions ITO-220AB



Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.30	4.50	4.70
A1	1.10	1.30	1.50
A2	2.80	3.00	3.20
A3	2.50	2.70	2.90
b	0.50	0.60	0.75
b1	1.10	1.20	1.35
b2	1.50	1.60	1.75
b3	1.20	1.30	1.45
b4	1.60	1.70	1.85
c	0.50	0.60	0.75
D	14.80	15.00	15.20
E	9.96	10.16	10.36
e	-	2.55	-
e1	-	5.10	-
H1	6.50	6.70	6.90
L	12.70	13.20	13.70
L1	1.60	1.80	2.00
L2	0.80	1.00	1.20
L3	0.60	0.80	1.00
φP1(上□)	3.30	3.50	3.70
φP2(下□)	2.99	3.19	3.39
Q	2.50	2.70	2.90
θ1	-	5°	-
θ2	-	4°	-
θ3	-	10°	-
θ4	-	5°	-
θ5	-	5°	-



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