SANGDEST MICROELECTRONICS

Technical Data *Green Products*
Data Sheet N1038, Rev. A

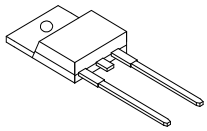
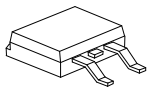
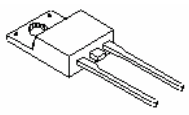
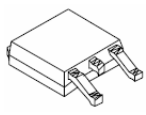
ST15100/STB15100/STF15100/STD15100 SCHOTTKY RECTIFIER

Applications:

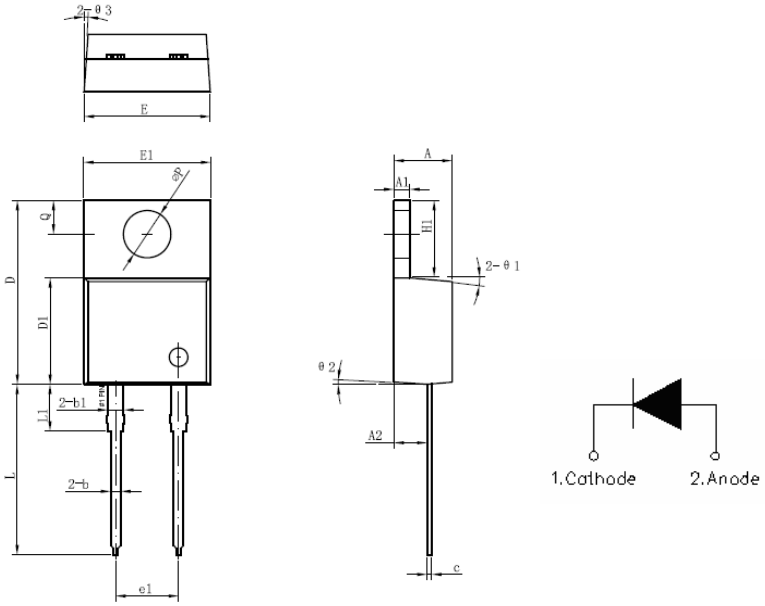
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection
- Center tap configuration

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

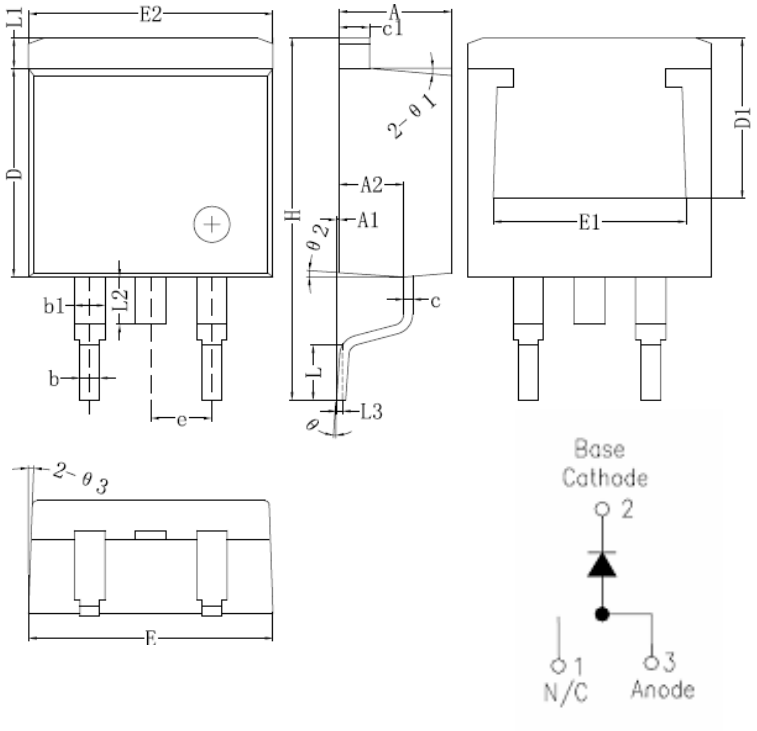
ST15100	STB15100	STF15100	STD15100
			
TO-220AC	D^2 PAK	ITO-220AC	DPAK

Mechanical Dimensions: In Inches / mm



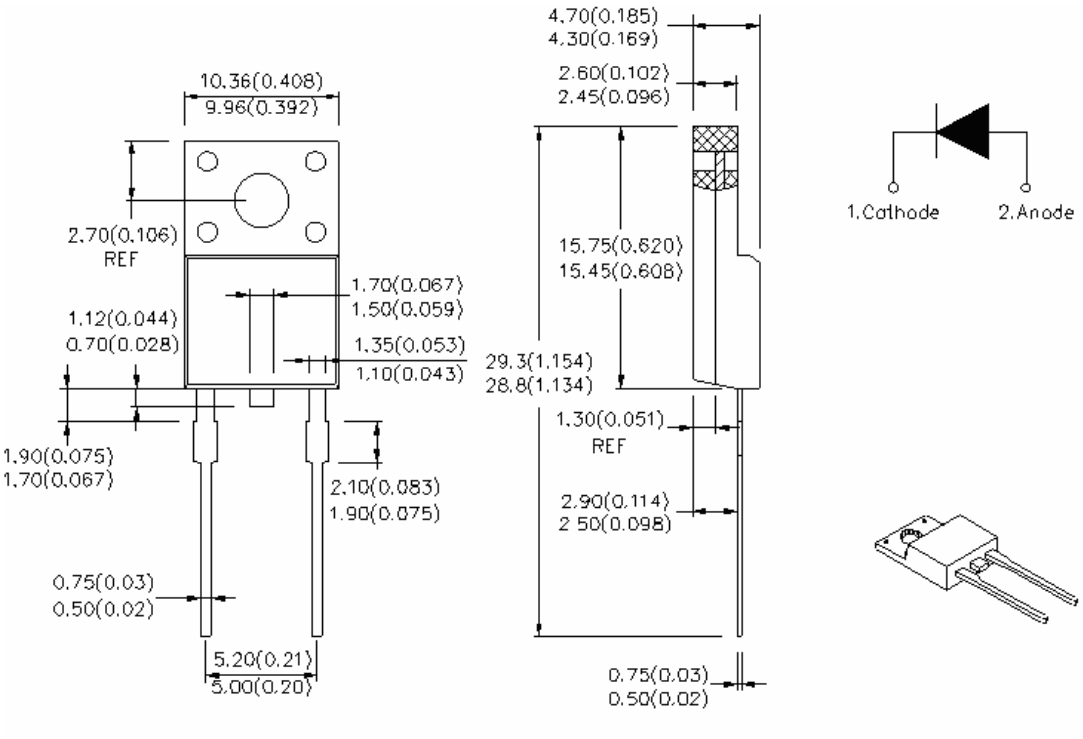
Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	1.17	1.27	1.37
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
D	14.64	14.94	15.24
D1	8.55	8.07	8.85
E	10.01	10.16	10.31
E1	9.98	10.18	10.38
e1		5.08	
H1	6.04	6.24	6.44
L	13.00	13.86	14.08
L1		3.80	
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
Θ1		5°	
Θ2		4°	
Θ3		4°	

TO-220AC

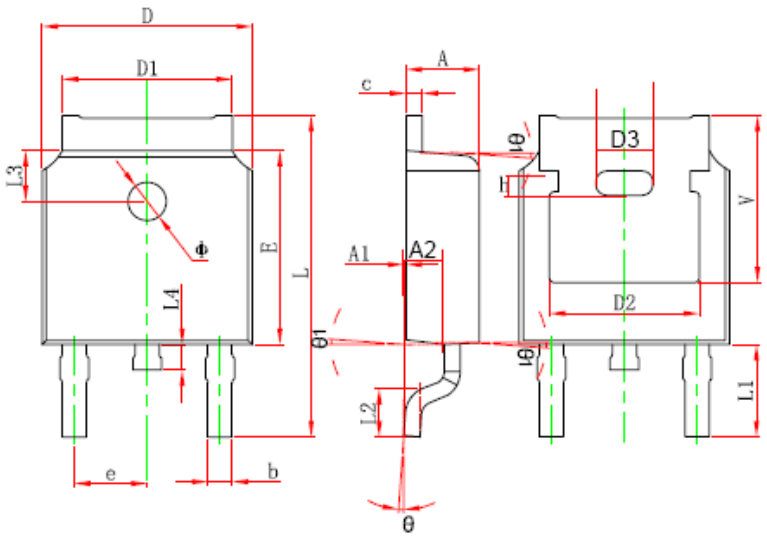


Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	0	0.10	0.25
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
c1	1.17	1.27	1.37
D	8.55	8.70	8.85
D1	6.40		
E	10.01	10.16	10.31
E1	7.6		
E2	9.98	10.08	10.18
e		2.54	
H	14.6	15.1	15.6
L	2.00	2.30	2.70
L1	1.17	1.27	1.40
L2			2.20
L3		0.25BSC	
e	0	-	8°
e1		5°	
e2		4°	
e3		4°	

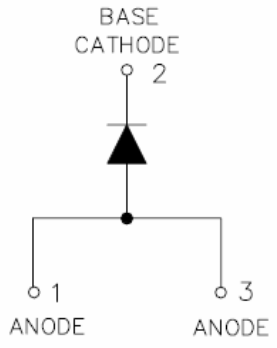
D^2PAK


10.36(0.408)
9.96(0.392)
2.70(0.106)
REF
1.12(0.044)
0.70(0.028)
1.70(0.067)
1.50(0.059)
1.35(0.053)
1.10(0.043)
1.90(0.075)
1.70(0.067)
2.10(0.083)
1.90(0.075)
0.75(0.03)
0.50(0.02)
5.20(0.21)
5.00(0.20)
4.70(0.185)
4.30(0.169)
2.60(0.102)
2.45(0.096)
15.75(0.620)
15.45(0.608)
29.3(1.154)
28.8(1.134)
1.30(0.051)
REF
2.90(0.114)
2.50(0.098)
0.75(0.03)
0.50(0.02)
1.Cathode
2.Anode

ITO-220AC



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.380	0.087	0.094
A1	0.000	0.100	0.000	0.004
b	0.710	0.810	0.028	0.032
c	0.460	0.560	0.018	0.022
D	6.500	6.700	0.256	0.264
D1	5.130	5.460	0.202	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.800	10.400	0.386	0.409
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
A2	0.910	1.110	0.036	0.044
V	5.350 REF.		0.211 REF.	
D3	1.778REF.		0.070REF.	
h	0.762REF.		0.030REF.	
θ1	7°		7°	



DPAK

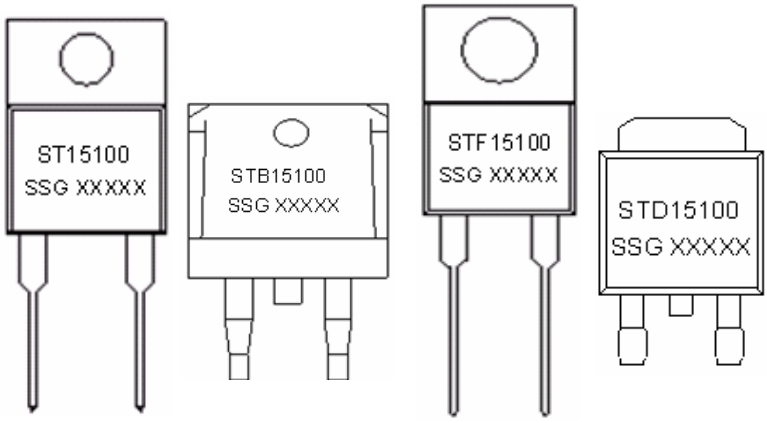
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ST15100
STB15100
STF15100
STD15100

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Green Products

Marking Diagram:



ST15100 STB15100 STF15100 STD15100

Where XXXXX is YYWWL

ST	= Device Type
B/F/D	= Package type
15	= Forward Current (15A)
100	= Reverse Voltage (100V)
SSG	= SSG
YY	= Year
WW	= Week
L	= Lot Number

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

Ordering Information:

Device	Package	Shipping
ST15100	TO-220AC(Pb-Free)	50pcs / tube
STB15100	D^2 PAK(Pb-Free)	800pcs / reel
STF15100	ITO-220AC(Pb-Free)	50pcs / tube
STD15100	DPAK(Pb-Free)	2500pcs / 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 Inverse Voltage	V_{RWM}	-	100	V
Average Forward Current	$I_{F(AV)}$	50% duty cycle @T_C =100℃, rectangular wave form	15	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	200	A

• Weiqi Street, Airport Development Zone, Jiangning District, Nanjing, China 211113 (86) 25-87123907 •
• FAX (86) 25-87123900 • World Wide Web Site - http://www.sangdest.com.cn • E-Mail Address - sales@ sangdest.com.cn •

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (per leg)*	V_{F1}	@ 15A, Pulse, T_J = 25 °C	0.70	0.75	V
	V_{F2}	@ 15A, Pulse, T_J = 125 °C	0.67	0.70	V
Reverse Current (per leg)*	I_{R1}	@V_R = rated V_R T_J = 25 °C	0.023	0.5	mA
	I_{R2}	@V_R = rated V_R T_J = 125 °C	3.19	55	mA
Junction Capacitance (per leg)	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	686	800	pF
Voltage Rate of Change	dv/dt	-	-	10,000	V/µs

Pulse Width < 300µs, Duty Cycle <2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	ST15100	STB15100	STD15100	STF15100	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)*	$R_{\theta JC}$	2.5	2.5	1.2	5.5	°C/W
Approximate Weight	wt	1.8	1.85	0.39	1.8	g
Case Style	TO-220AC/ D^2PAK/ DPAK/ ITO-220AC					

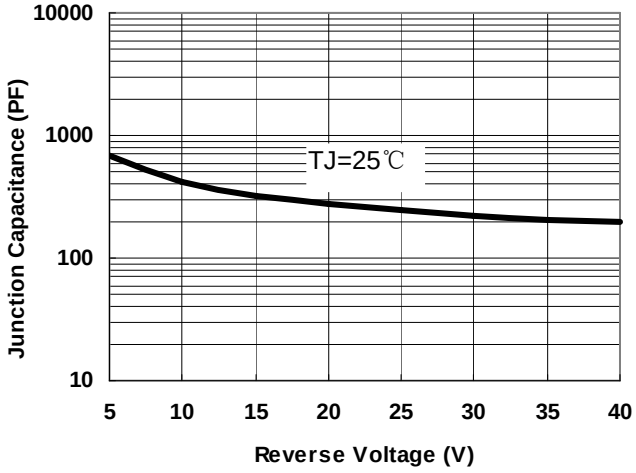


Fig.1-Typical Junction Capacitance

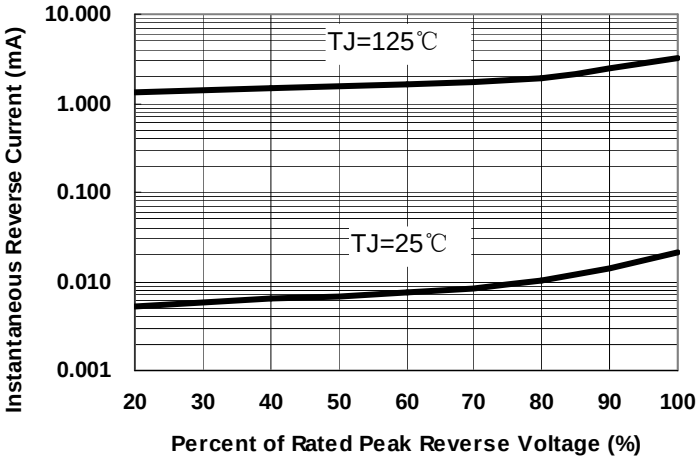


Fig.2-Typical Reverse Characteristics

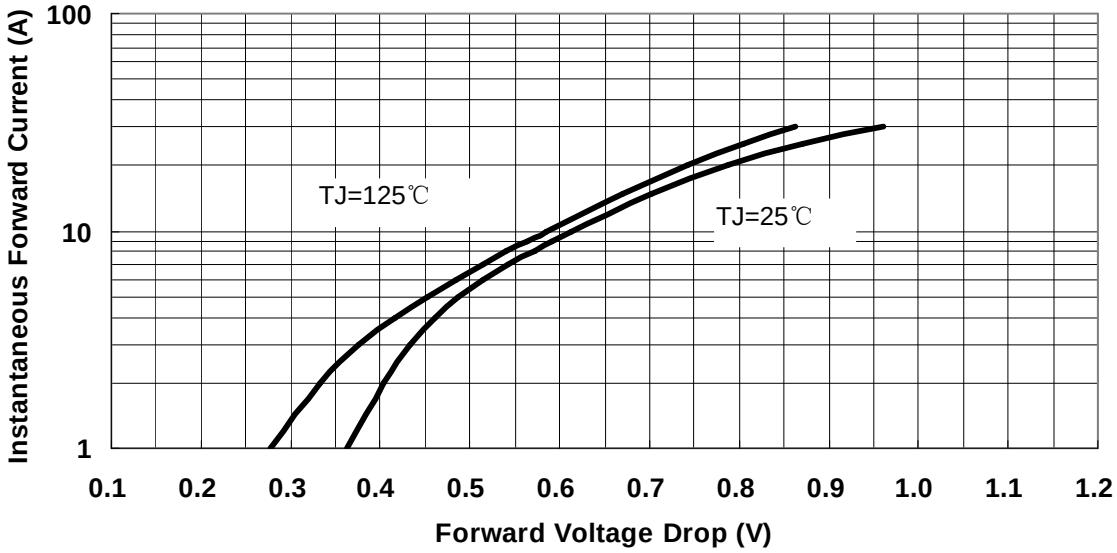


Fig.3-Typical Instantaneous Forward Voltage Characteristics

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ST15100
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STF15100
STD15100

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