Technical Data
Data Sheet N1366, Rev. -

Green Products

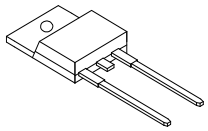
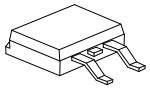
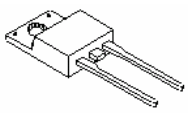
ST20120/STB20120/STF20120
SCHOTTKY RECTIFIER

Applications:

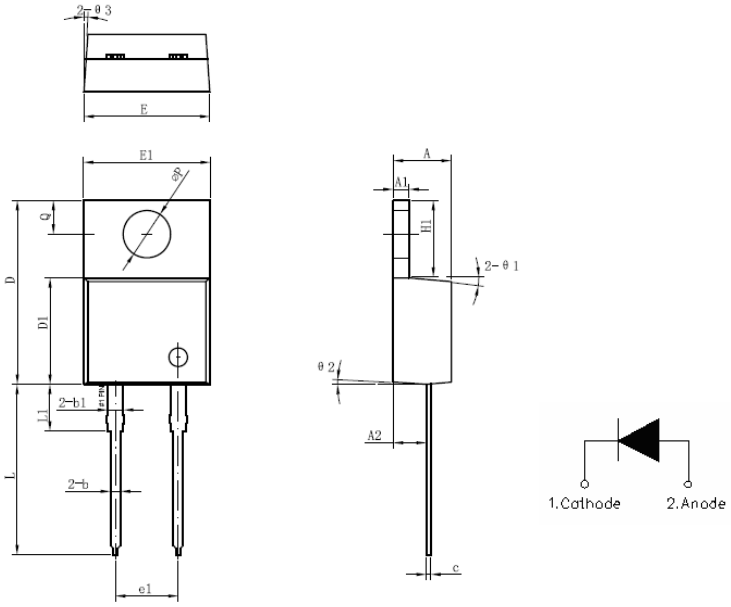
- **Switching power supply**
- **Converters**
- **Free-Wheeling diodes**
- **Reverse battery protection**
- **Center tap configuration**

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**

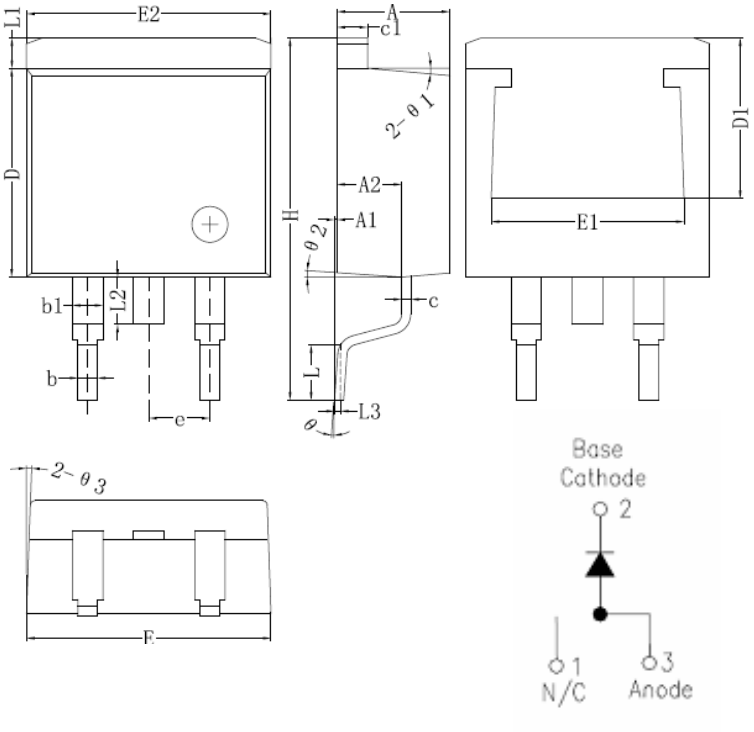
ST20120	STB20120	STF20120
		
TO-220AC	**D^2 PAK**	**ITO-220AC**

Mechanical Dimensions: In Inches / mm



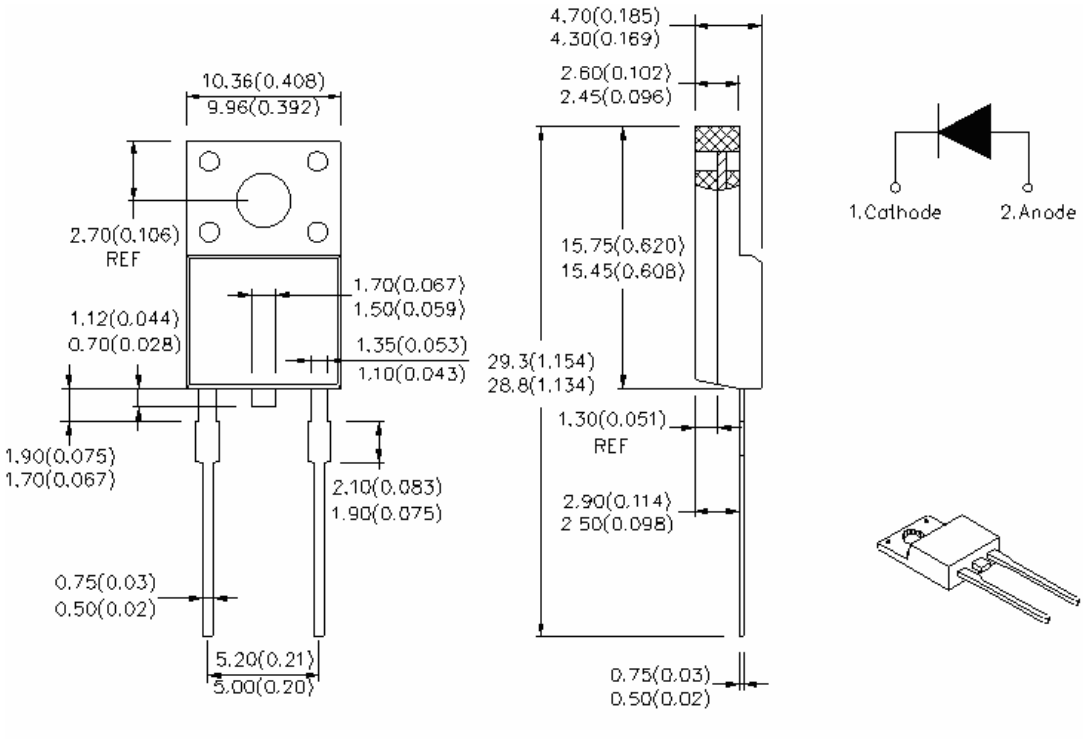
Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	1.17	1.27	1.37
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
D	14.64	14.94	15.24
D1	8.55	8.07	8.85
E	10.01	10.16	10.31
E1	9.98	10.18	10.38
e1		5.08	
H1	6.04	6.24	6.44
L	13.00	13.86	14.08
L1		3.80	
ΦP	3.74	3.84	4.04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

SANGDEST MICROELECTRONICS

ST20120
STB20120
STF20120

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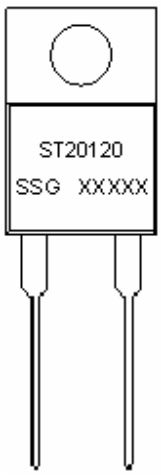
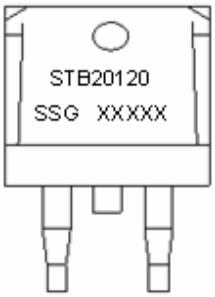
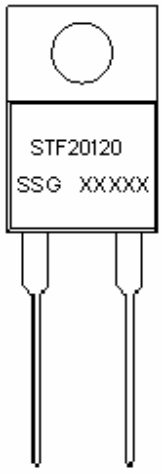
Marking Diagram:



ST20120



STB20120



STF20120

Where XXXXX is YYWWL

ST	= Device Type
B/F	= Package type
20	= Forward Current (20A)
120	= Reverse Voltage (120V)
SSG	= SSG
YY	= Year
WW	= Week
L	= Lot Number

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

Ordering Information:

Device	Package	Shipping
ST20120	TO-220AC(Pb-Free)	50pcs / tube
STB20120	D^2 PAK(Pb-Free)	800pcs / reel
STF20120	ITO-220AC(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}	-	120	V
Average Forward Current	$I_{F(AV)}$	50% duty cycle @T_C =100℃, rectangular wave form	20	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse	250	A

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• 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	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 20A, Pulse, T_J = 25 °C	0.88	V
	V_{F2}	@ 20A, Pulse, T_J = 125 °C	0.71	V
Reverse Current(per leg)*	I_{R1}	@V_R = rated V_R T_J = 25 °C	0.5	mA
Reverse Current (per leg) *	I_{R2}	@V_R = rated V_R T_J = 125 °C	45	mA
Junction Capacitance (per leg)	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	1000	pF
Voltage Rate of Change	dv/dt	-	10,000	V/μs

* Pulse Width < 300μs, Duty Cycle <2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	ST20120	STB20120	STF20120	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)*	$R_{\theta JC}$	2.0	2.0	5.0	°C/W
Approximate Weight	wt	1.8	1.85	1.8	g
Case Style	TO-220AC/ D^2PAK/ITO-220AC				

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