

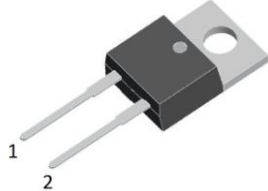
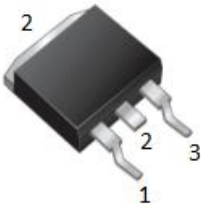
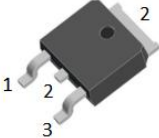
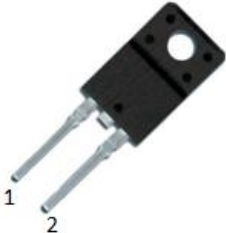
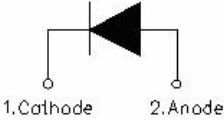
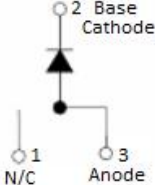
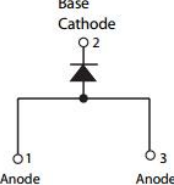
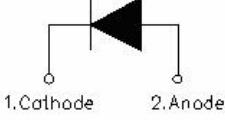
ST8200/STB8200/STF8200/STD8200 SCHOTTKY RECTIFIER

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
- Guard ring for enhanced ruggedness and long term reliability
- Trench MOS Schottky technology
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

ST8200	STB8200	STD8200	STF8200
			
			
TO-220AC	D ² PAK	DPAK	ITO-220AC

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	-	200	V
Average Rectified Forward Current	I _{F(AV)}	50% duty cycle @T _c =100°C, rectangular wave form	8	A
Peak One Cycle Non-Repetitive Surge Current	I _{FSM}	8.3ms, Half Sine pulse, T _C = 25 °C	130	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 8A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	-	1.60	V
	V_{F2}	@ 8A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	-	0.73	V
Reverse Current*	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25\text{ }^\circ\text{C}$	-	0.24	mA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125\text{ }^\circ\text{C}$	-	16	mA

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

Thermal-Mechanical Specifications:

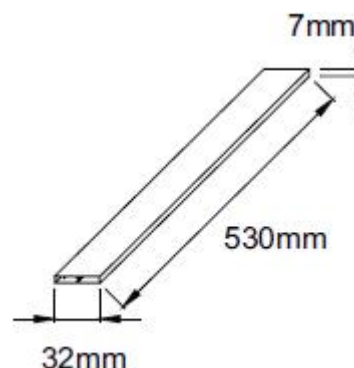
Characteristics	Symbol	ST8200	STB8200	STD8200	STF8200	Units
Junction Temperature	T_J	-55 to +150				$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150				$^\circ\text{C}$
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	2.8	2.8	2.0	5.5	$^\circ\text{C/W}$
Case Style	TO-220AC/ D ² PAK/ DPAK/ ITO-220AC					

Tube Specification

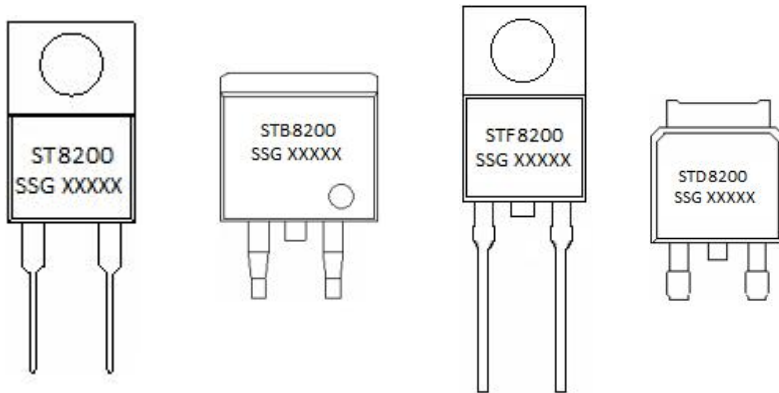
Device	Package	Weight	Shipping
ST8200	TO-220AC	1.6g	50pcs / tube
STB8200	D ² PAK	1.85g	800pcs / reel
STD8200	DPAK	0.39g	2500pcs / reel
STF8200	ITO-220AC	1.6g	50pcs / tube

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

Tube Specification(TO-220AC/ITO-220AC)



Marking Diagram

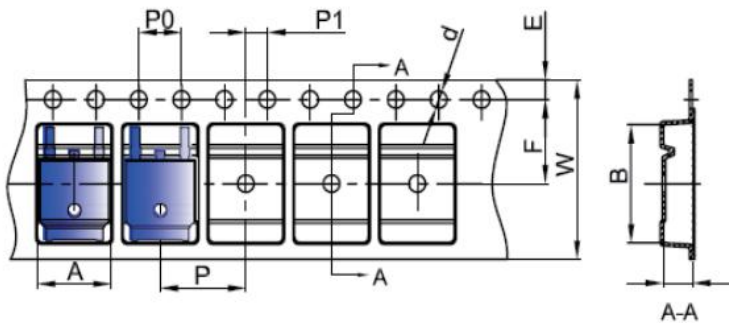


Where XXXXX is YYWWL

ST = Device Type
B/D/F = Package type
8 = Forward Current (8A)
200 = Reverse Voltage (200V)
SSG = SSG
YY = Year
WW = Week
L = Lot Number

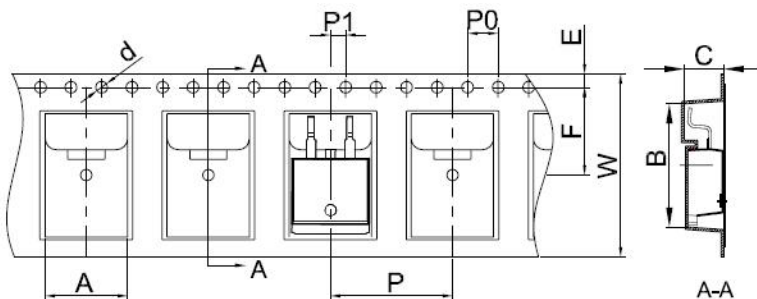
Cautions: Molding resin
Epoxy resin UL:94V-0

Carrier Tape Specification DPAK



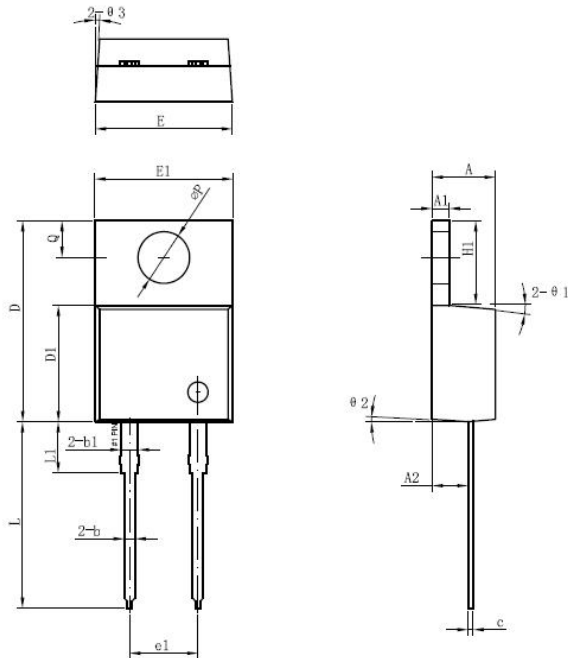
SYMBOL	Millimeters	
	Min.	Max.
A	6.80	7.00
B	10.40	10.60
C	2.60	2.80
d	Φ1.45	Φ1.65
E	1.65	1.85
F	7.40	7.60
P0	3.90	4.10
P	7.90	8.10
P1	1.90	2.10
W	15.90	16.30

Carrier Tape Specification D²PAK



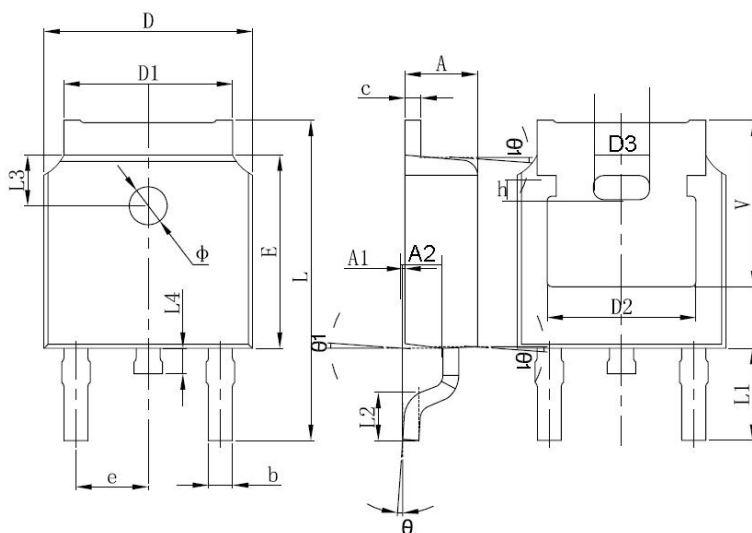
SYMBOL	Millimeters	
	Min.	Max.
A	10.70	10.90
B	16.03	16.23
C	5.11	5.31
d	1.45	1.65
E	1.65	1.85
F	11.40	11.60
P0	3.90	4.10
P	15.90	16.10
P1	1.90	2.10
W	23.90	24.30

Mechanical Dimensions TO-220AC



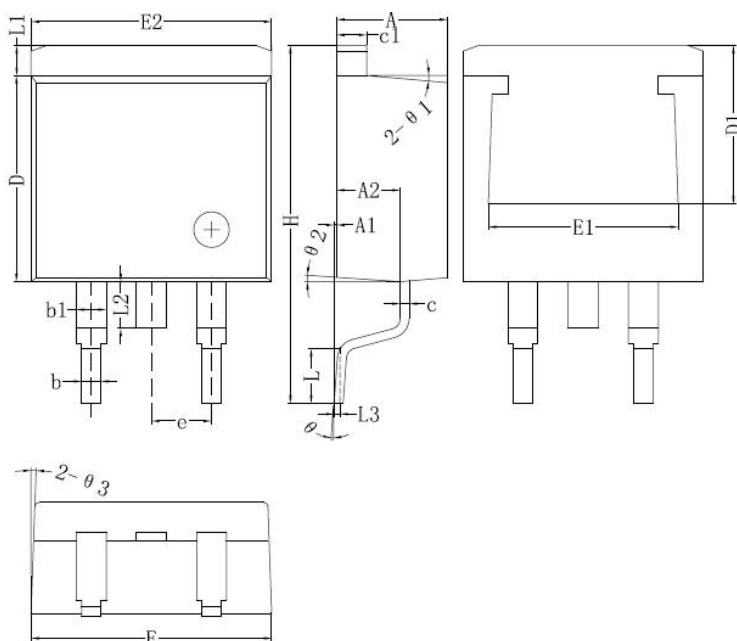
Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.47	4.70	4.85
A1	1.17	1.27	1.37
A2	2.52	2.69	2.89
b	0.71	0.81	0.96
b1	1.17	1.27	1.37
c	0.31	0.38	0.61
D	14.64	14.94	15.24
D1	8.50	8.07	8.90
E	10.01	10.16	10.31
E1	9.98	10.18	10.38
e1	4.98	5.08	5.18
H1	6.04	6.24	6.44
L	13.00	13.86	14.08
L1	3.56	3.80	3.96
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
Θ1		5°	
Θ2		4°	
Θ3		4°	

Mechanical Dimensions DPAK



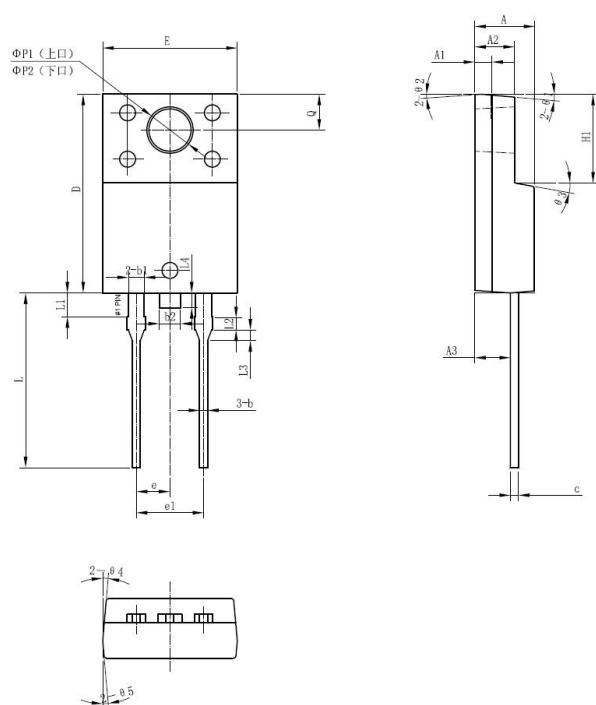
SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.40	0.087	0.094
A1	0.00	0.127	0.000	0.005
b	0.66	0.86	0.026	0.034
c	0.46	0.60	0.018	0.024
D	6.50	6.70	0.256	0.264
D1	5.13	5.46	0.202	0.215
D2	4.83 REF.		0.190 REF.	
E	6.00	6.20	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.70	10.40	0.381	0.409
L1	2.90 REF.		0.144 REF.	
L2	1.40	1.70	0.055	0.067
L3	1.60 REF.		0.063 REF.	
L4	0.60	1.00	0.024	0.039
Φ	1.10	1.30	0.043	0.051
Θ	0°	8°	0°	8°
h	0.00	0.30	0.000	0.012
V	5.35 REF.		0.211 REF.	

Mechanical Dimensions D²PAK



Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.47	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	1.17	1.27	1.37
c	0.31	0.38	0.61
c1	1.17	1.27	1.37
D	8.50	8.70	8.90
D1	6.40		
E	10.01	10.16	10.31
E1	7.6		
E2	9.98	10.08	10.31
e		2.54	
H	14.6	15.1	15.6
L	2.00	2.30	2.74
L1	1.12	1.27	1.42
L2	1.30		2.20
L3		0.25BSC	
e	0	-	8°
e1		5°	
e2		4°	
e3		4°	

Mechanical Dimensions ITO-220AC



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
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	5.00	5.10	5.16
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
L4	-	1.10	1.50
ΦP1(上口)	3.30	3.50	3.70
ΦP2(下口)	2.99	3.19	3.39
Q	2.50	2.70	2.90
θ1		5°	
θ2		4°	
θ3		10°	
θ4		5°	
θ5		5°	



ST8200
STB8200
STD8200
STF8200

Technical Data
Data Sheet N1428, Rev. A



DISCLAIMER:

- 1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the SMC - Sangdest Microelectronics (Nanjing) Co., Ltd sales department for the latest version of the datasheet(s).
- 2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment , and safety equipment) , safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement .
- 3- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). SMC - Sangdest Microelectronics (Nanjing) Co., Ltd assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.
- 4- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.
- 5- No license is granted by the datasheet(s) under any patents or other rights of any third party or SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.
- 6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.
- 7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations..