Technical Data
Data Sheet N1430, Rev. A

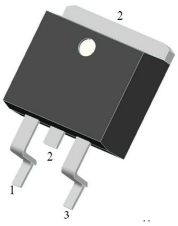
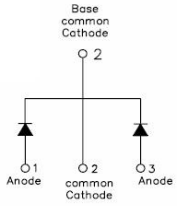
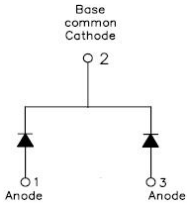
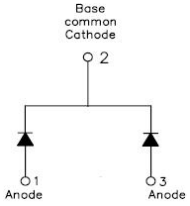
ST10200C/STB10200C/STD10200C
SCHOTTKY RECTIFIER

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

ST10200C	STB10200C	STD10200C
		
		
TO-220AB	D^2PAK	DPAK

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 @Tc=100°C, rectangular wave form	5(Per Leg) 10(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I_{FSM}	8.3ms, Half Sine pulse	120	A

ST10200C
STB10200C
STD10200C

Technical Data
Data Sheet N1430, Rev. A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Breakdown Voltage	V_{BR}	@I_R =1.0mA, T_J = 25 °C	200(minimum)	-	V
Forward Voltage Drop (Note 1) *	V_{F1}	@ 3A, Pulse, T_J = 25 °C @ 5A, Pulse, T_J = 25 °C	0.76 0.80	- 1.60	V
	V_{F2}	@ 3A, Pulse, T_J = 125 °C @ 5A, Pulse, T_J = 125 °C	0.61 0.68	- 0.73	V
Reverse Current(Note 2) *	I_{R1}	@V_R =180V T_J = 25 °C @V_R =200V T_J = 25 °C	0.1 0.2	- 150	μA
	I_{R2}	@V_R =180V, T_J = 125 °C @V_R =200V, T_J = 125 °C	0.3 0.4	- 10	mA
Junction Capacitance	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	100	-	pF

Note: 1 Pulse test: Pulse Width < 300μs, Duty Cycle <1%
2. Pulse test: Pulse Width < 40ms

Thermal-Mechanical Specifications:

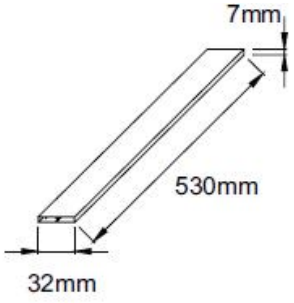
Characteristics	Symbol	ST10200C	STB10200C	STD10200C	Units
Junction Temperature	T_J	-55 to +150			°C
Storage Temperature	T_{stg}	-55 to +150			°C
Typical Thermal Resistance Junction to Case(Per Leg)	$R_{\theta JC}$	3.5	3.5	2.4	°C/W

Tube Specification

Device	Package	Weight	Shipping
ST10200C	TO-220AB	2.0	50pcs / tube
STB10200C	D^2PAK	1.85	800pcs / reel
STD10200C	DPAK	0.39	2500pcs / reel

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-220AB)



Ratings and Characteristics Curves

Figure1
Typical Forward Characteristics

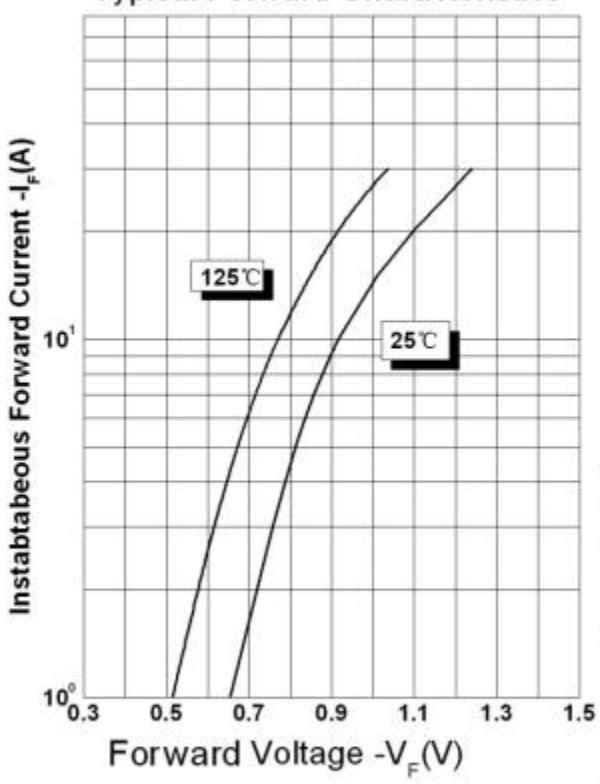


Figure 2
Typical Reverse Characteristics

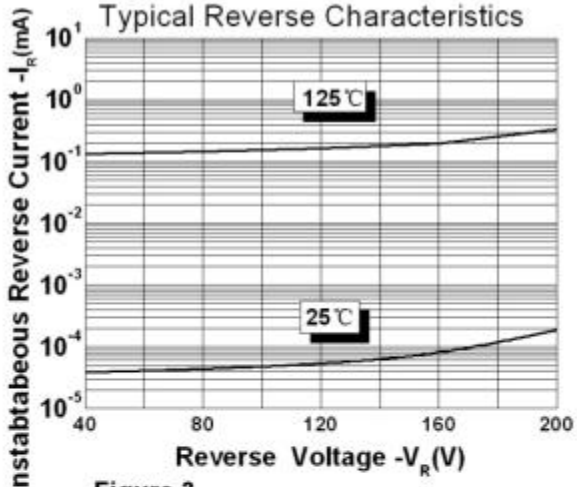
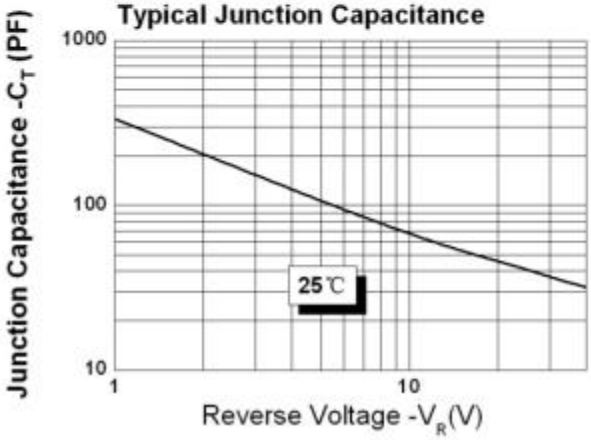


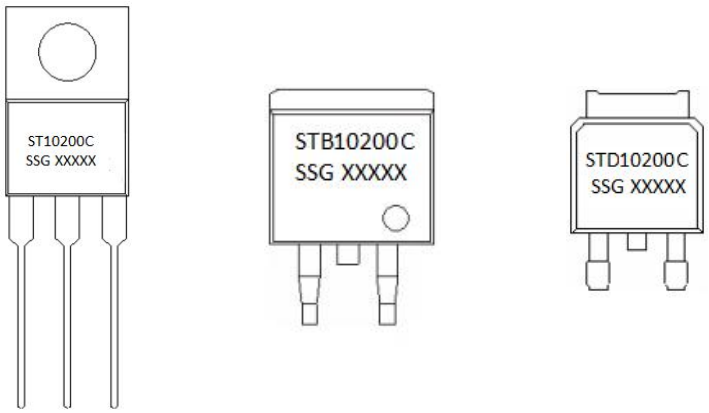
Figure 3
Typical Junction Capacitance



ST10200C
STB10200C
STD10200C

Technical Data
Data Sheet N1430, Rev. A

Marking Diagram

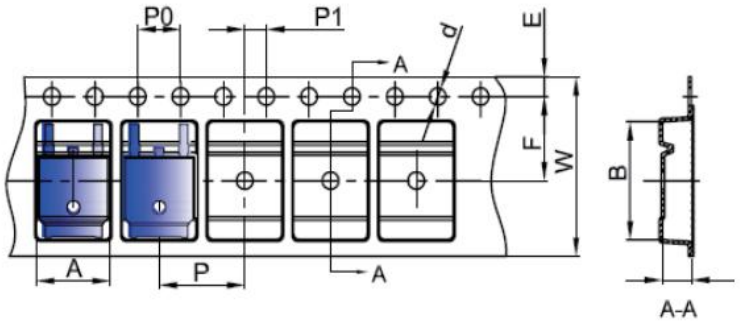


Where XXXXX is YYWWL

ST	= Device Type
B/D	= Package type
10	= Forward Current (10A)
200	= Reverse Voltage (200V)
C	= Configuration
SSG	= SSG
YY	= Year
WW	= Week
L	= Lot Number

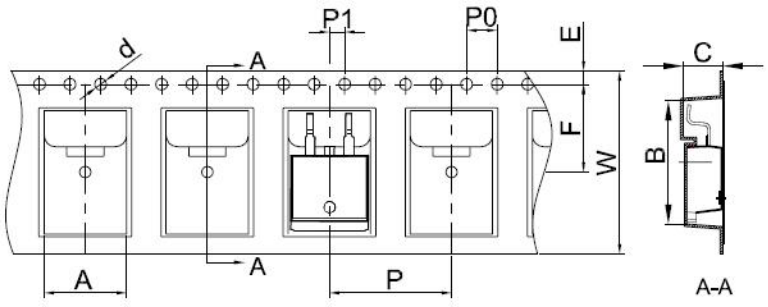
Cautions: Molding resin
Epoxy resin UL:94V-0

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

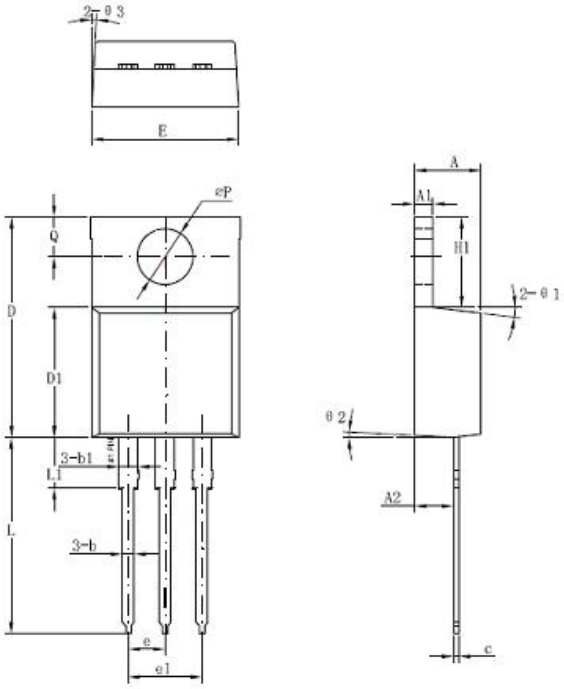


SYMBOL	Millimeters	
	Min.	Max.
A	10.70	10.90
B	16.03	16.23
C	5.11	5.31
d	1.45	1.65
E	1.65	1.85
F	11.40	11.60
P0	3.90	4.10
P	15.90	16.10
P1	1.90	2.10
W	23.90	24.30

ST10200C
STB10200C
STD10200C

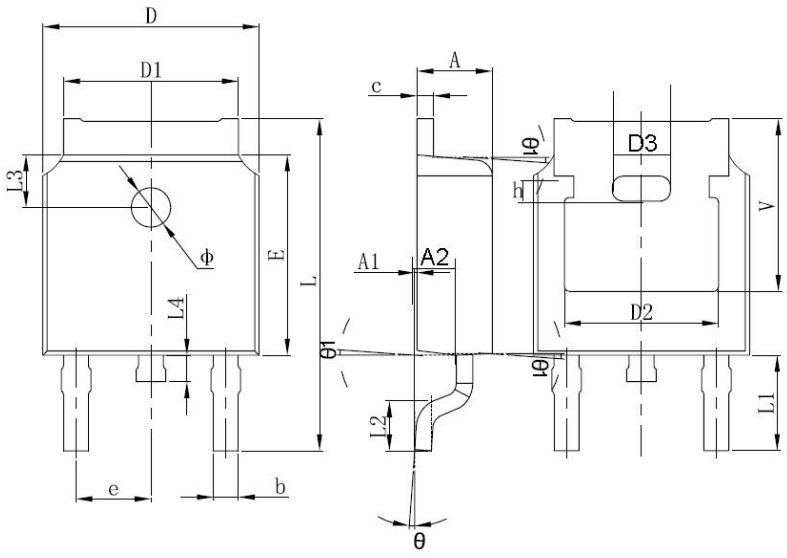
Technical Data
Data Sheet N1430, Rev. A

Mechanical Dimensions TO-220AB



Symbol	Dimensions in millimeters		
	Min	Typical	Max
A	4.42	4.57	4.72
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	14.94	15.24	15.54
D1	8.85	9.00	9.15
E	10.01	10.16	10.31
e		2.54	
e1	4.98	5.06	5.18
H1	6.04	6.24	6.44
L	12.7	13.56	13.80
L1	3.56	3.5	3.96
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
Θ1		7°	
Θ2		3°	
Θ3		4°	

Mechanical Dimensions DPAK

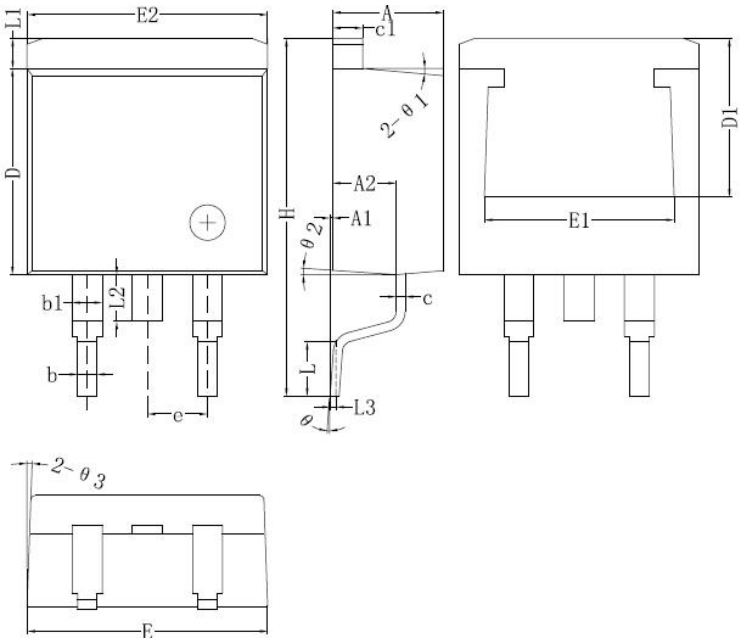


SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.40	0.087	0.094
A1	0.00	0.127	0.000	0.005
b	0.66	0.86	0.026	0.034
c	0.46	0.60	0.018	0.024
D	6.50	6.70	0.256	0.264
D1	5.13	5.46	0.202	0.215
D2	4.83 REF.		0.190 REF.	
E	6.00	6.20	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.70	10.40	0.381	0.409
L1	2.90 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.	

Technical Data
Data Sheet N1430, Rev. A

RoHS

Mechanical Dimensions D²PAK



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°	

Technical Data
Data Sheet N1430, Rev. A

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