

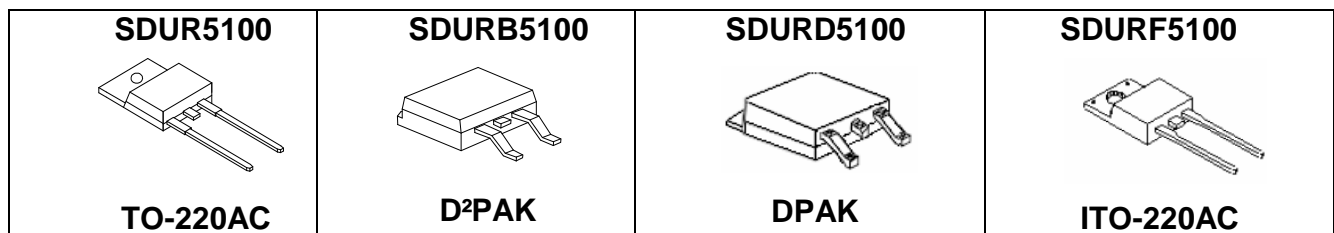
## SDUR5100/SDURB5100/SDURD5100/SDURF5100 ULTRAFAST PLASTIC RECTIFIER

### Applications:

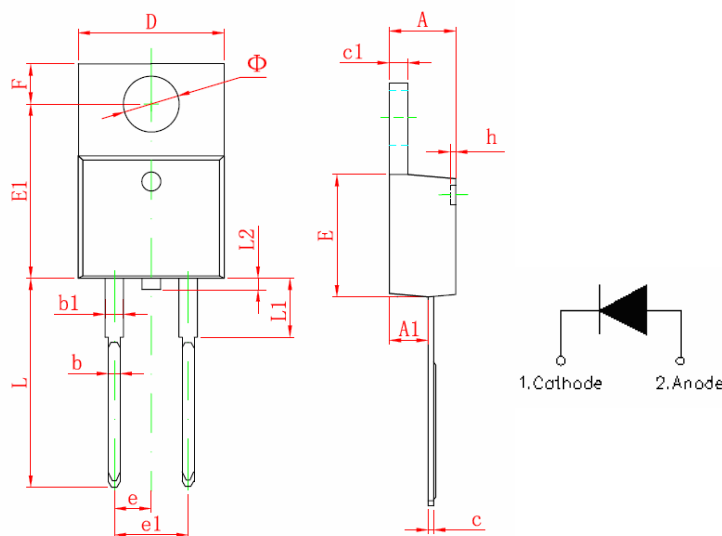
- Antiparallel diode for high frequency switching devices
- Anti saturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating and melting
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

### Features:

- Ultra-Fast Switching
- High Current Capability
- Low Reverse Leakage Current
- High Surge Current Capability
- Plastic Material has UL Flammability Classification 94V-0
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request



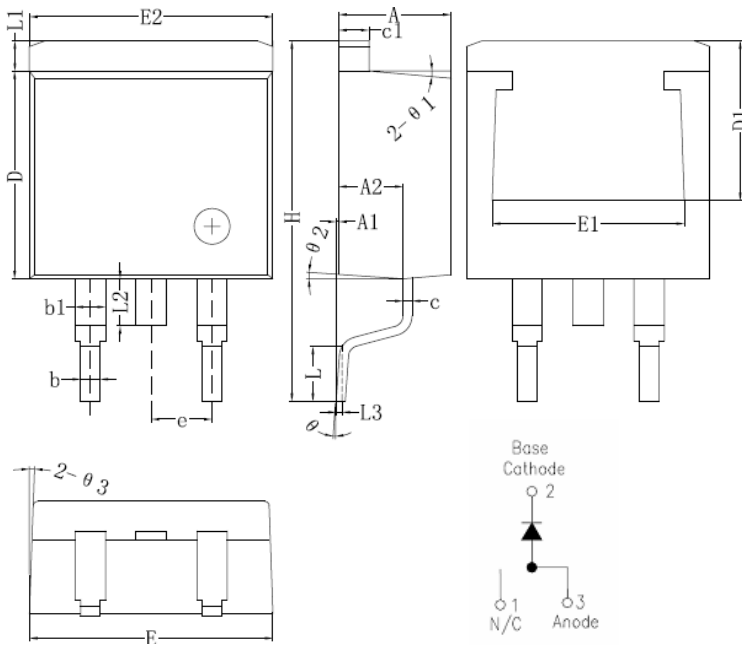
Mechanical Dimensions: In mm



Symbol	Dimensions In Millimeters	
	Min	Max
A	4.470	4.670
A1	2.520	2.820
b	0.710	0.910
b1	1.170	1.370
c	0.310	0.530
c1	1.170	1.370
D	10.010	10.310
E	8.500	8.900
E1	12.060	12.460
e	2.540 TYP	
e1	4.980	5.180
F	2.590	2.890
h	0.000	0.300
L	13.400	13.800
L1	3.560	3.960
L2		1.000
Φ	3.735	3.935

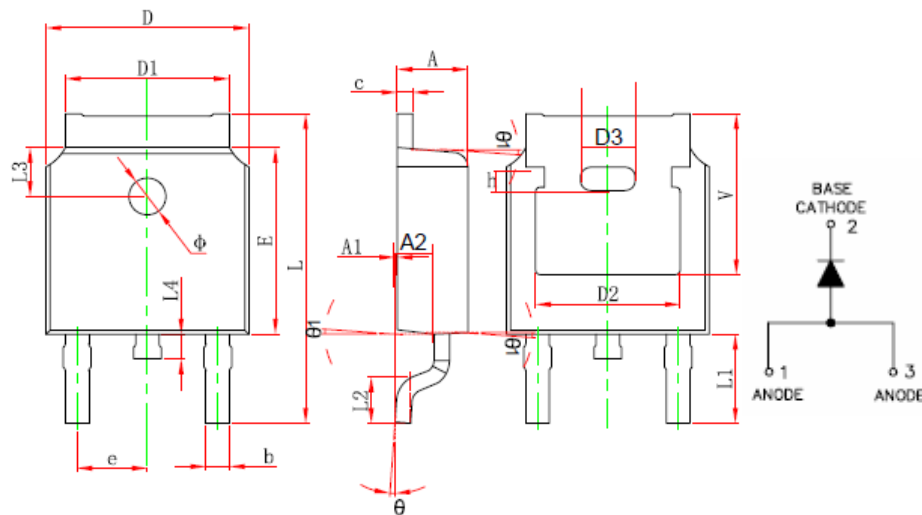
### TO-220AC

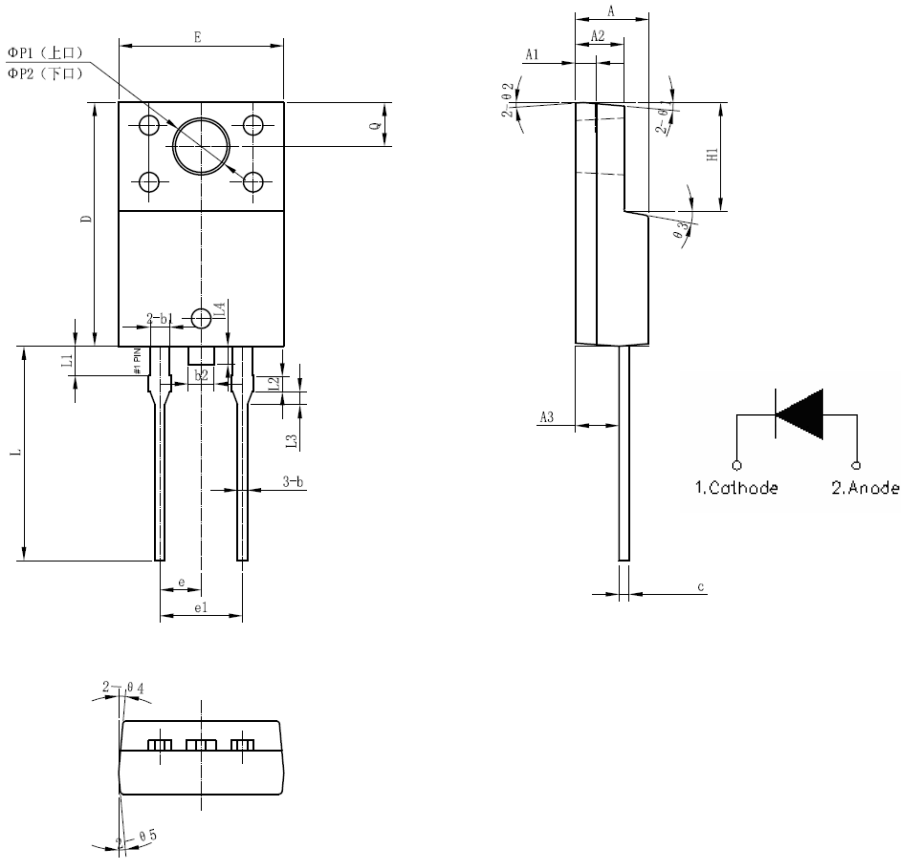
**Technical Data**  
**Data Sheet N1296, Rev. -**



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<sup>2</sup> PAK**



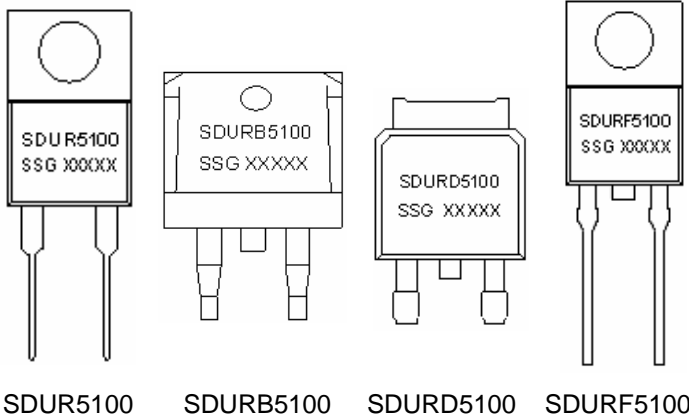


SYMBOL	MIN.	TYP.	MAX.
A	4.30	4.50	4.70
A1	1.10	1.30	1.50
A2	2.80	3.00	3.20
A3	2.50	2.70	2.90
b	0.50	0.60	0.75
b1	1.10	1.20	1.35
b2	1.50	1.60	1.75
c	0.55	0.60	0.75
D	14.80	15.00	15.20
E	9.96	10.16	10.36
e	-	2.55	-
e1	-	5.10	-
H1	6.50	6.70	6.90
L	12.70	13.20	13.70
L1	1.60	1.80	2.00
L2	0.80	1.00	1.20
L3	0.60	0.80	1.00
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°	

**ITO-220AC(HD)**

Technical Data  
Data Sheet N1296, Rev. -

Marking Diagram:



Where XXXXX is YYWWL

SDUR = Device Type  
B/D/F = Package type  
5 = Forward Current (5A)  
100 = Reverse Voltage (1000V)  
SSG = SSG  
YY = Year  
WW = Week  
L = Lot Number

SDUR5100 SDURB5100 SDURD5100 SDURF5100

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

Ordering Information:

Device	Package	Shipping
SDUR5100	TO-220AC (Pb-Free)	50pcs / tube
SDURB5100	D <sup>2</sup> PAK (Pb-Free)	800pcs / reel
SDURD5100	DPAK (Pb-Free)	2500pcs / reel
SDURF5100	ITO-220AC (Pb-Free)	50 pcs / 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	$V_{RWM}$	-	1000	V
Max. Average Forward Current	$I_{O(AV)}$	50% duty cycle @Tc=105°C, rectangular wave form	5	A
Max. Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3ms, Half Sine pulse	100	A

**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop(Per leg)*	$V_{F1}$	@5A, Pulse, $T_J = 25^\circ\text{C}$	2.5	V
	$V_{F2}$	@5A, Pulse, $T_J = 150^\circ\text{C}$	1.9	V
Max. Reverse Current*	$I_{R1}$	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	100	$\mu\text{A}$
	$I_{R2}$	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	1.6	mA
Max. Reverse Recovery Time	$t_{rr1}$	$I_F=500\text{mA}$ , $I_R=1\text{A}$ , and $I_{rm}=250\text{mA}$	75	ns

\* Pulse width < 300  $\mu\text{s}$ , duty cycle < 2%

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	SDUR5100	SDURB5100	SDURD5100	SDURF5100	Units
Junction Temperature	$T_J$	-55 to +150				$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150				$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case(per leg)*	$R_{\theta JC}$	2.3	2.3	1.7	4.2	K/W
Approximate Weight	wt	1.8	1.85	0.39	1.8	g
Case Style	TO-220AC/ D <sup>2</sup> PAK/ DPAK/ ITO-220AC					

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