

Technical Data
Data Sheet N1255, Rev. -

Green Products

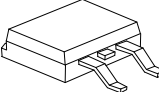
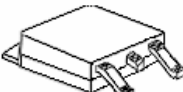
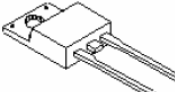
SDURB/D/F1520 ULTRAFAST PLASTIC RECTIFIER

Applications:

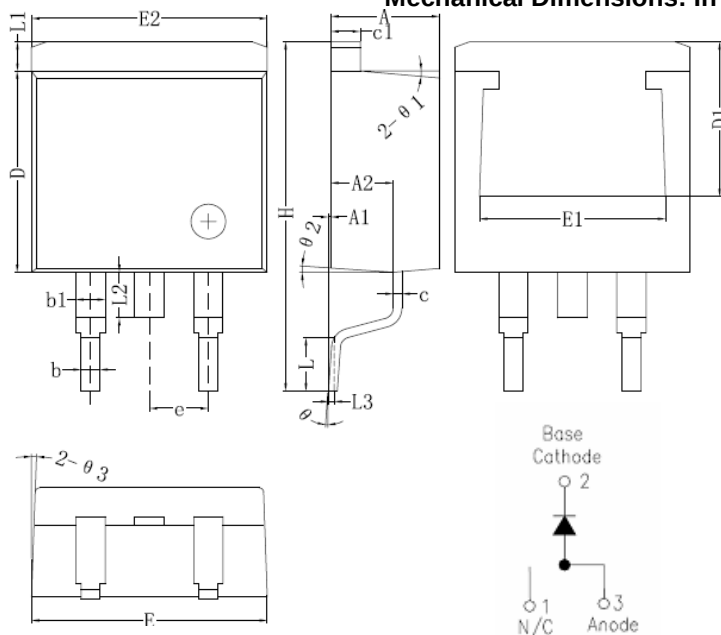
- Antiparallel diode for high frequency switching devices
- Anti saturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating and melting
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners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

Features:

- Ultra-Fast Switching
- High Current Capability
- Low Reverse Leakage Current
- High Surge Current Capability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

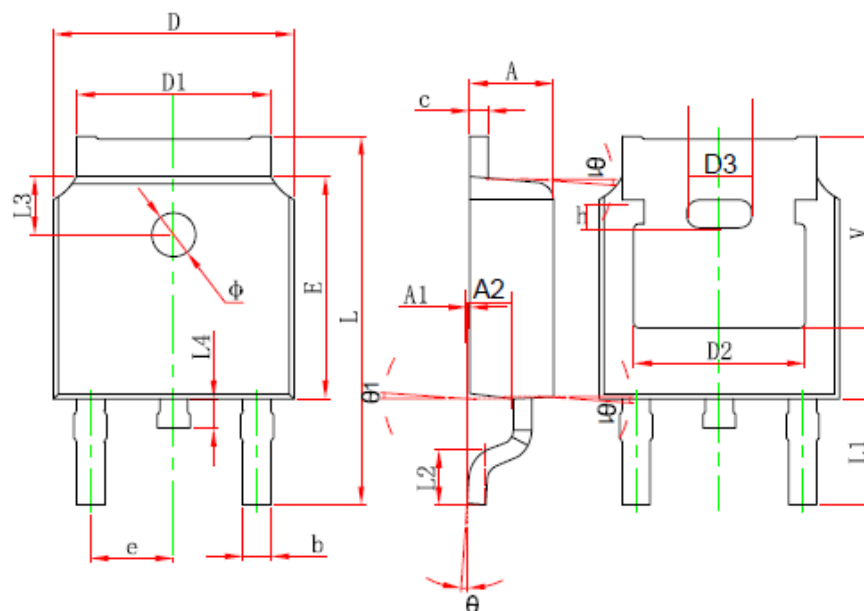
SDURB1520	SDURD1520	SDURF1520
		
D²PAK	DPAK	ITO-220AC

Mechanical Dimensions: In mm /Inches

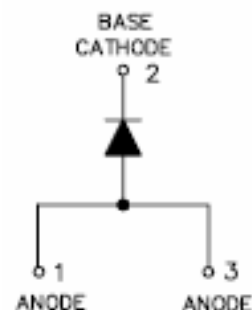


D² PAK

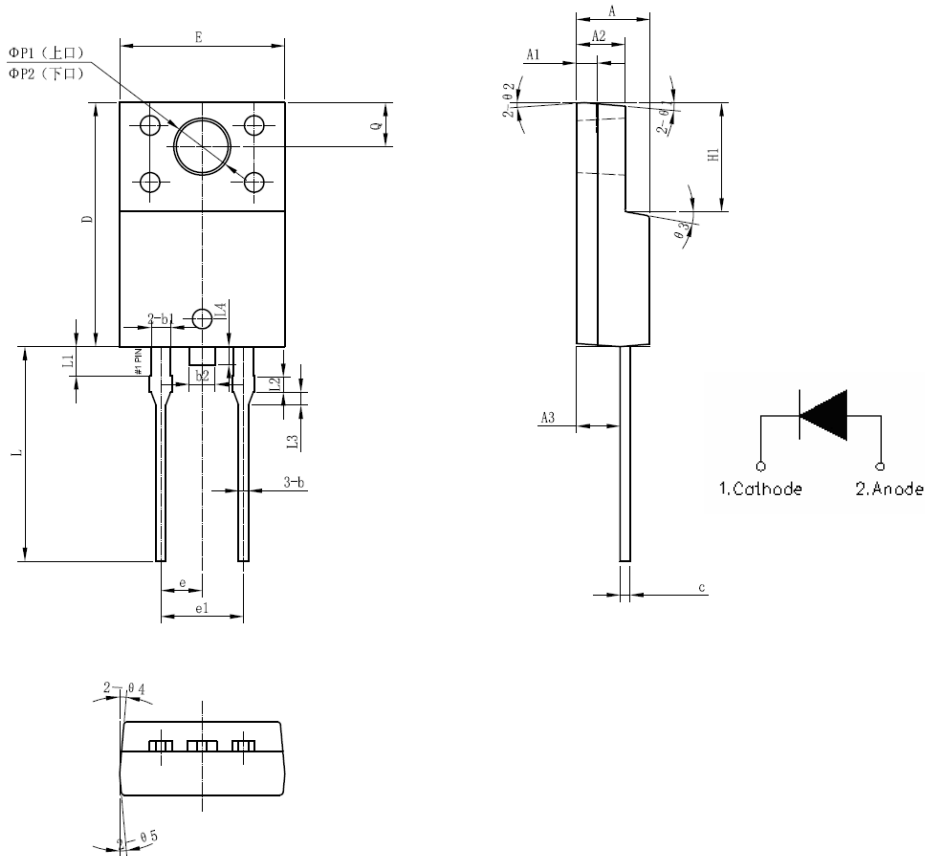
Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	0	0.10	0.25
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
c1	1.17	1.27	1.37
D	8.55	8.70	8.85
D1	6.40		
E	10.01	10.16	10.31
E1	7.6		
E2	9.98	10.08	10.18
e		2.54	
H	14.6	15.1	15.6
L	2.00	2.30	2.70
L1	1.17	1.27	1.40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



Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.380	0.087	0.094
A10.000	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	1.778 REF.		0.070 REF.	
h	0.762 REF.		0.030 REF.	
θ1	7°		7°	



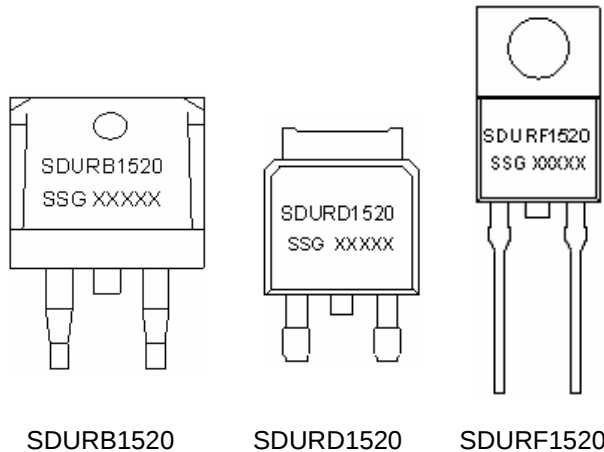
DPAK



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
$\Phi P1$ (上口)	3.30	3.50	3.70
$\Phi P2$ (下口)	2.99	3.19	3.39
Q	2.50	2.70	2.90
$\Theta 1$		5°	
$\Theta 2$		4°	
$\Theta 3$		10°	
$\Theta 4$		5°	
$\Theta 5$		5°	

ITO-220AC(HD)

Marking Diagram:



Where XXXXX is YYWWL

SDUR = Device Type
B/D/F = Package type
15 = Forward Current (15A)
20 = Reverse Voltage (200V)
SSG = SSG
YY = Year
WW = Week
L = Lot Number

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

Ordering Information:

Device	Package	Shipping
SDURB1520	D ² PAK (Pb-Free)	800pcs/ reel
SDURD1520	DPAK (Pb-Free)	2500pcs/ reel
SDURF1520	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}	-	200	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @Tc=75°C, rectangular wave form	15	A
Max. Peak One Cycle Non-Repetitive Surge Current (Per leg)	I_{FSM}	8.3ms, Half Sine pulse	110	A

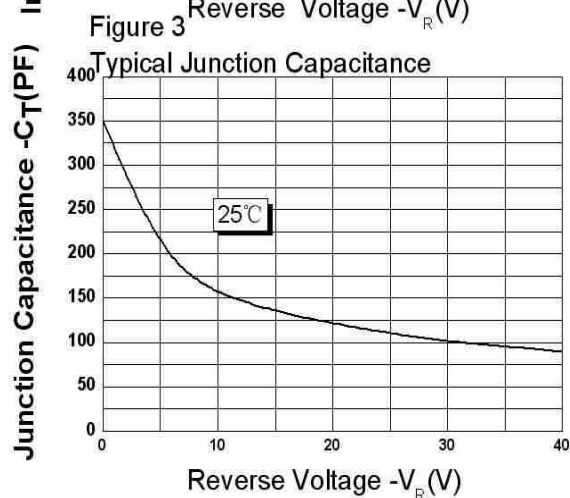
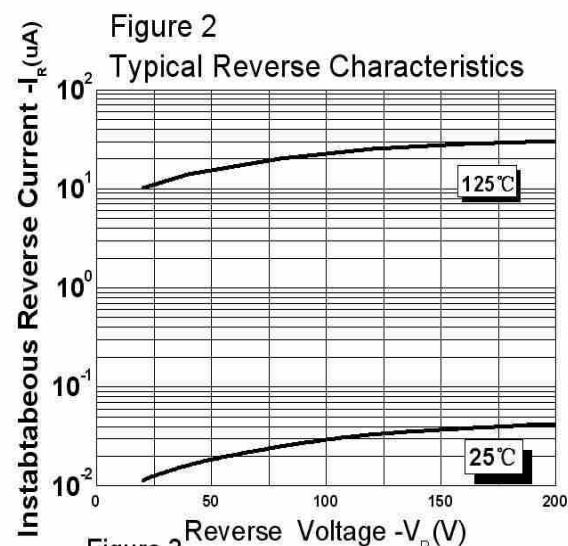
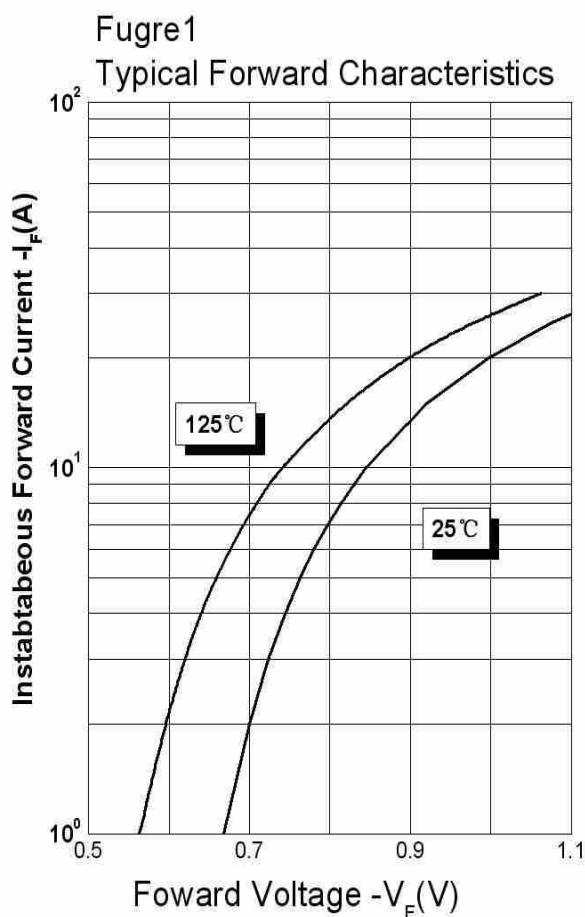
Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop*	V_F	@15A, Pulse, $T_J = 25^\circ\text{C}$	1.05	V
	V_{F2}	@15A, Pulse, $T_J = 150^\circ\text{C}$	0.85	V
Reverse Current*	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	10	μA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 150^\circ\text{C}$	500	μA
Reverse Recovery Time	t_{rr}	$I_F=500\text{mA}$, $I_R=1\text{A}$, and $I_{rm}=250\text{mA}$	35	ns

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

Thermal-Mechanical Specifications:

Characteristics	Symbol	SDURB1520	SDURD1520	SDURF1520	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	1.7	4.2	K/W
Approximate Weight	wt	1.85	0.39	1.8	g
Case Style	D ² PAK/ DPAK/ ITO-220AC				



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