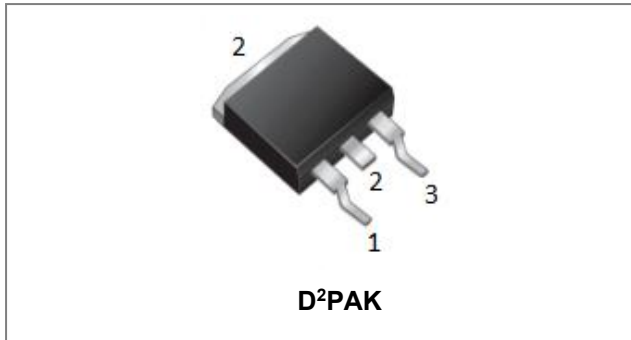


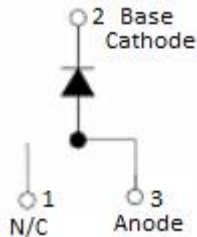
SDURB15U120 ULTRAFAST RECTIFIER



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

Circuit Diagram



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

Maximum Ratings (limiting values, at 25 °C unless otherwise specified)

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	1200	V
Average Rectified Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_c=140^\circ\text{C}$, rectangular wave form	15	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3ms, Half Sine pulse	150	A

Electrical Characteristics:

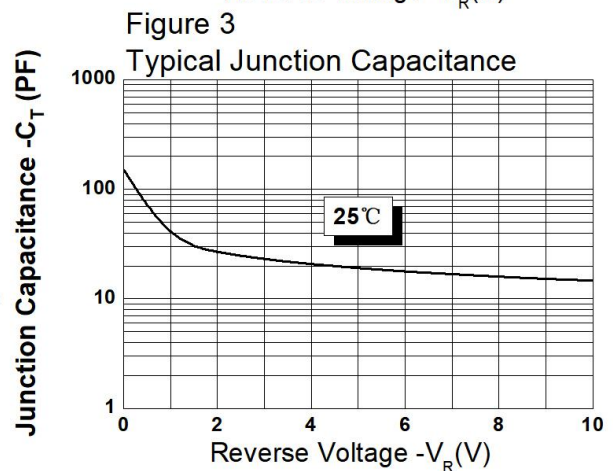
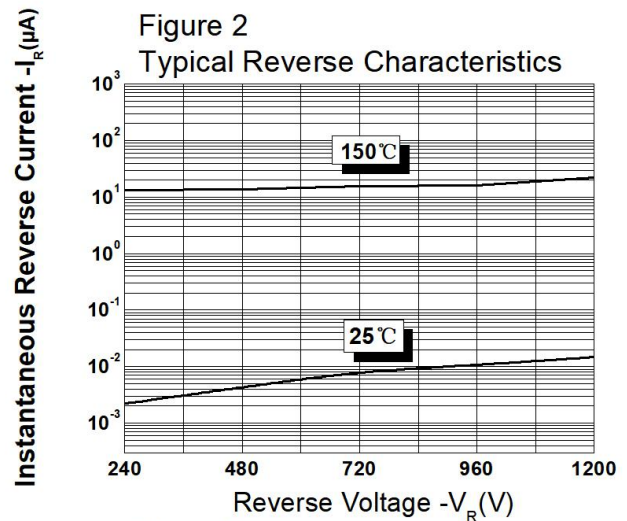
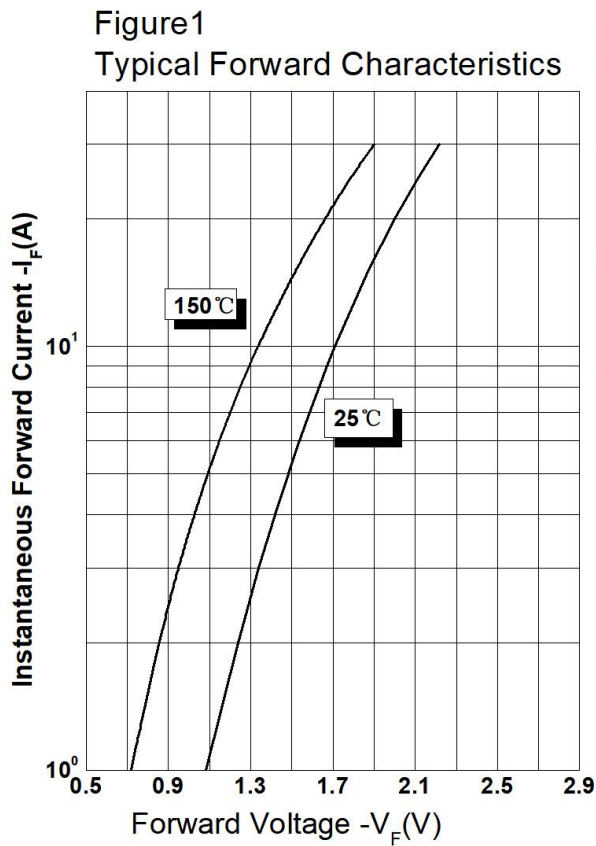
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@15A, Pulse, $T_J = 25^\circ\text{C}$	1.90	2.80	V
	V_{F2}	@15A, Pulse, $T_J = 150^\circ\text{C}$	1.50	2.30	V
Reverse Current*	I_{R1}	@ $V_R = \text{rated } V_R, T_J = 25^\circ\text{C}$	0.012	50	μA
	I_{R2}	@ $V_R = \text{rated } V_R, T_J = 150^\circ\text{C}$	22	250	μA
Reverse Recovery Time	t_{rr}	$I_F=500\text{mA}, I_R=1\text{A}, \text{ and } I_m=250\text{mA}$	46	50	ns
Reverse Recovery Time	t_{rr}	$I_F=15\text{A}, di_F/dt = -100\text{A}/\mu\text{s}, V_R=600\text{V}, T_J = 25^\circ\text{C}$	128	-	ns

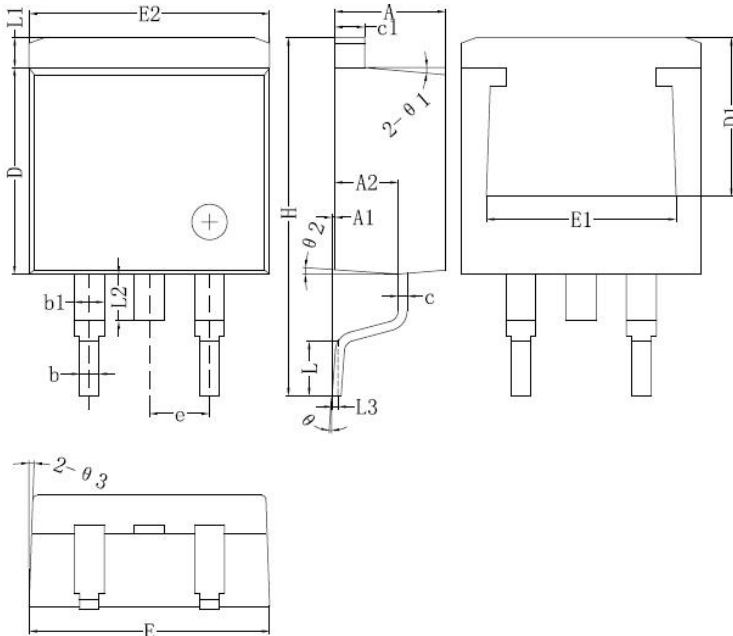
* Pulse width < 300 μs , duty cycle < 2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-65 to +175	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-	-65 to +175	$^{\circ}\text{C}$
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	DC operation	1.5	$^{\circ}\text{C}/\text{W}$
Approximate Weight	wt	-	1.85	g
Case Style	D ² PAK			

Ratings and Characteristics Curves



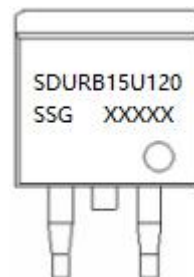
Mechanical Dimensions D²PAK


Symbol	Dimensions in millimeters	
	Min.	Max.
A	4.06	4.83
A1	0	0.26
b	0.51	0.99
b1	1.14	1.78
c	0.31	0.74
c1	1.14	1.65
D	8.38	9.65
D1	6.4	
E1	6.22	
E2	9.65	10.67
e	2.54BSC	
H	14.6	15.88
L	1.78	2.8
L1	-	1.68
L2	-	2.2
L3	0.255BSC	
Θ	0	8°

Ordering Information

Device	Package	Shipping
SDURB15U120	D ² PAK	800pcs / reel
SDURB15U120TR	D ² PAK	800pcs / reel

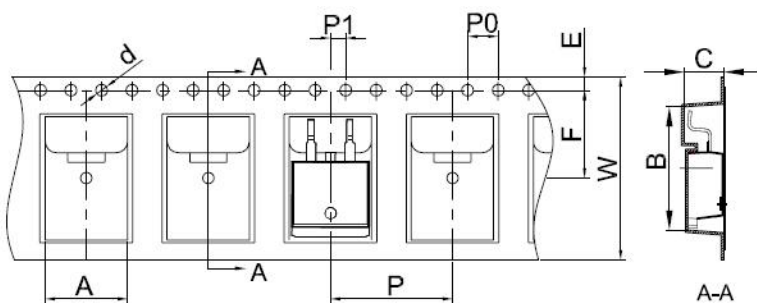
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram


Where XXXXX is YYWWL

SDUR = Device Type
 B = Package type
 15 = Forward Current (15A)
 U = U
 120 = Reverse Voltage(1200V)
 SSG = SSG
 YY = Year
 WW = Week
 L = Lot Number

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

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

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