Technical Data

Green Products

Data Sheet N1084, Rev. -

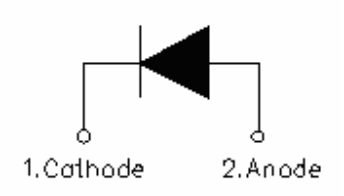
SDUR830 ULTRAFAST PLASTIC RECTIFIER

Applications:

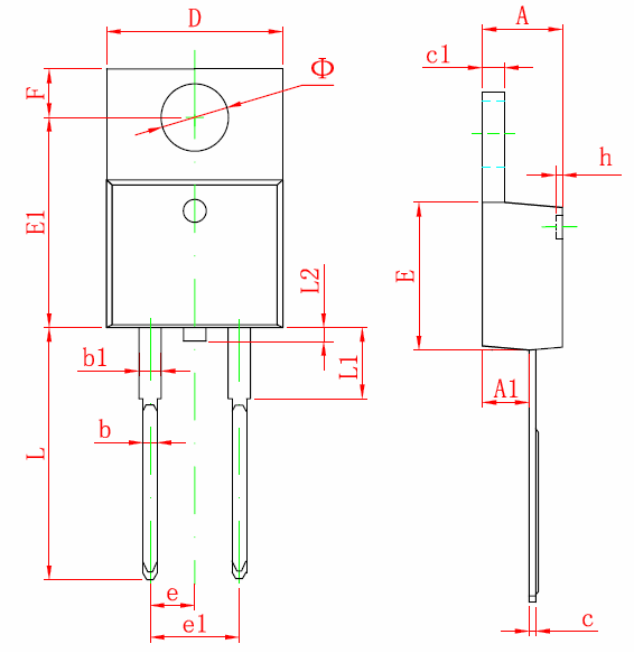
- Antiparallel diode for high frequency switching devices
- Anti saturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating and melting
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners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

Features:

- Utra-Fast Switching
- High Current Capability
- Low Reverse Leakage Current
- High Surge Current Capability
- Plastic Material has UL Flammability Classification 94V-O
- 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) and Marking:



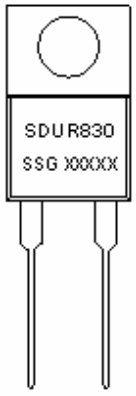
Symbol	Dimensions In Millimeters	
	Min	Max
A	4.470	4.670
A1	2.520	2.820
b	0.710	0.910
b1	1.170	1.370
c	0.310	0.530
c1	1.170	1.370
D	10.010	10.310
E	8.500	8.900
E1	12.060	12.460
e	2.540 TYP	
e1	4.980	5.180
F	2.590	2.890
h	0.000	0.300
L	13.400	13.800
L1	3.560	3.960
L2		1.000
Φ	3.735	3.935

TO-220AC

Technical Data
Data Sheet N1084, Rev. -

Green Products

Marking Diagram:



Where XXXXX is YYWWL

SDUR = Device Type
8 = Forward Current (8A)
30 = Reverse Voltage (300V)
SSG = SSG
YY = Year
WW = Week
L = Lot Number

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

Ordering Information:

Device	Package	Shipping
SDUR830	TO-220AC (Pb-Free)	50pcs / 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}	-	300	V
Max. Average Forward	$Io_{(AV)}$	50Hz, Sine wave, T_C=105℃	8	A
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3ms, Half Sine pulse	80	A

Technical Data
Data Sheet N1084, Rev. -

Green Products

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop*	V_{F1}	@8A, Pulse, T_J = 25°C	1.3	V
	V_{F2}	@8A, Pulse, T_J = 125°C	1.2	V
Max. Reverse Current*	I_{R1}	@V_R = rated V_R T_J = 25°C	10	μA
	I_{R2}	@V_R = rated V_R T_J = 125°C	500	μA
Max. Reverse Recovery Time	t_{rr}	I_F=500mA, I_R=1A,and I_{rm}=250mA	45	ns

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

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +150	℃
Max. Storage Temperature	T_{stg}	-	-55 to +150	℃
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	5	℃ /W
Approximate Weight	wt	-	1.6	g
Case Style	TO-220AC			

Fugre1
Typical Forward Characteristics

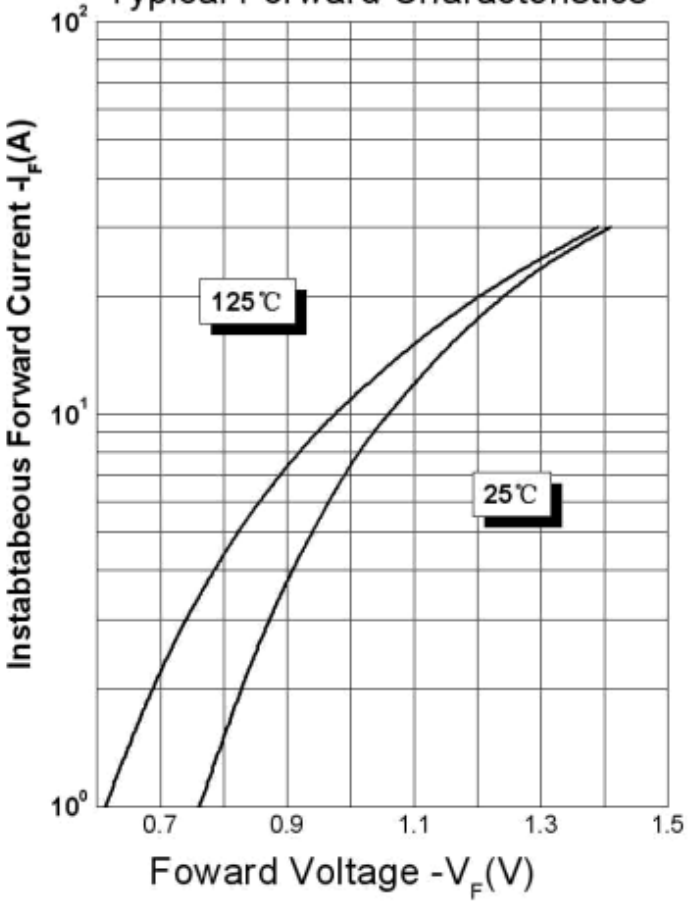


Figure 2
Typical Reverse Characteristics

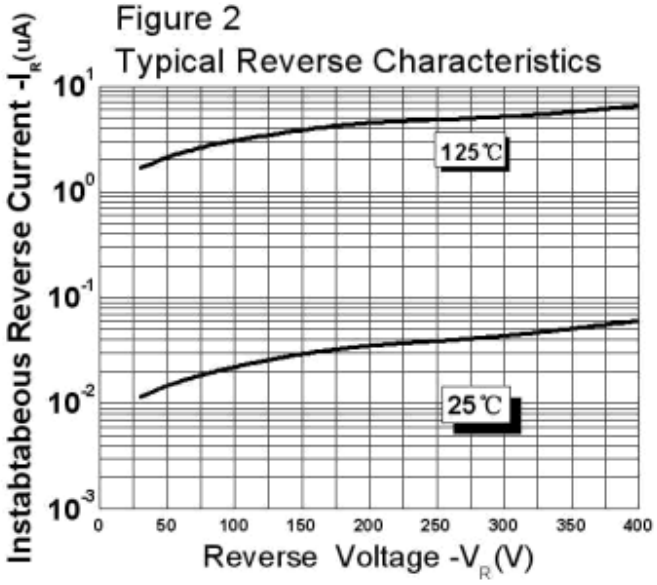
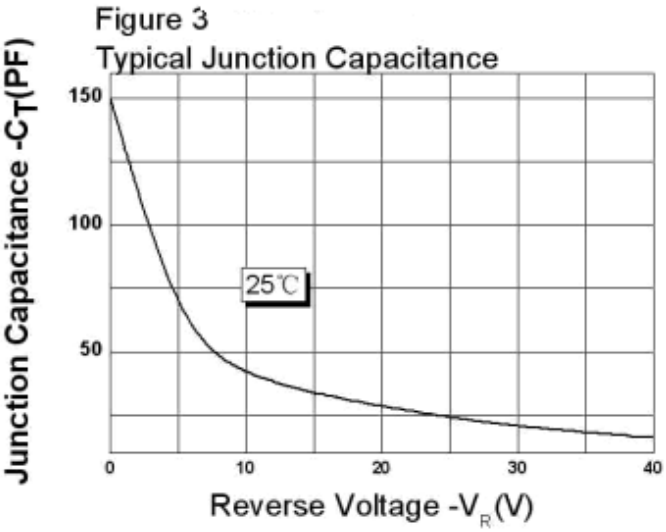


Figure 3
Typical Junction Capacitance



Technical Data
Data Sheet N1084, Rev. -

Green Products

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