

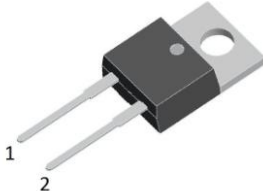
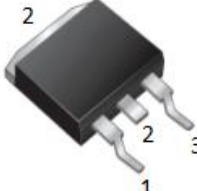
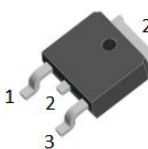

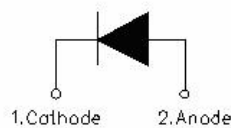
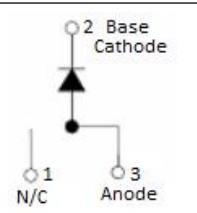
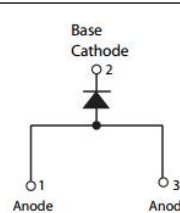
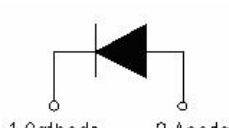
SDUR1540/SDURB1540/SDURD1540/SDURF1540 ULTRAFAST RECTIFIER

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

Features

- Ultra-Fast Switching
- High Current Capability
- Low Reverse Leakage Current
- High Surge Current Capability
- Plastic Material has UL Flammability Classification 94V-0
- “-A” is an AEC-Q101 qualified device
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

SDUR1540	SDURB1540	SDURD1540	SDURF1540
			
			
TO-220AC	D ² PAK	DPAK	ITO-220AC

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	V_{RRM}	-	400	V
Working Peak Reverse Voltage	V_{RWM}			
DC Blocking Voltage	V_R			
Average Rectified Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_c=75^{\circ}C$, rectangular wave form	15	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3ms, Half Sine pulse	240	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 15A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.93	1.25	V
	V_{F2}	@ 15A, Pulse, $T_J = 150\text{ }^\circ\text{C}$	-	1.01	V
Reverse Current*	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25\text{ }^\circ\text{C}$	0.04	10	μA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 150\text{ }^\circ\text{C}$	-	500	μA
Reverse Recovery Time	t_{rr}	$I_F=500\text{mA}$, $I_R=1\text{A}$, and $I_{rm}=250\text{mA}$	42	45	ns

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

Thermal-Mechanical Specifications:

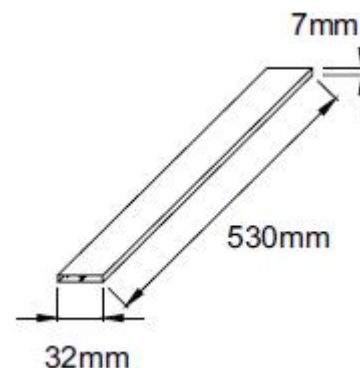
Characteristics	Symbol	SDUR1540	SDURB1540	SDURD1540	SDURF1540	Units
Junction Temperature	T_J	-55 to +150				$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150				$^\circ\text{C}$
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	2.3	2.3	1.7	4.2	$^\circ\text{C/W}$
Case Style		TO-220AC/ D ² PAK/ DPAK/ ITO-220AC				

Tube Specification

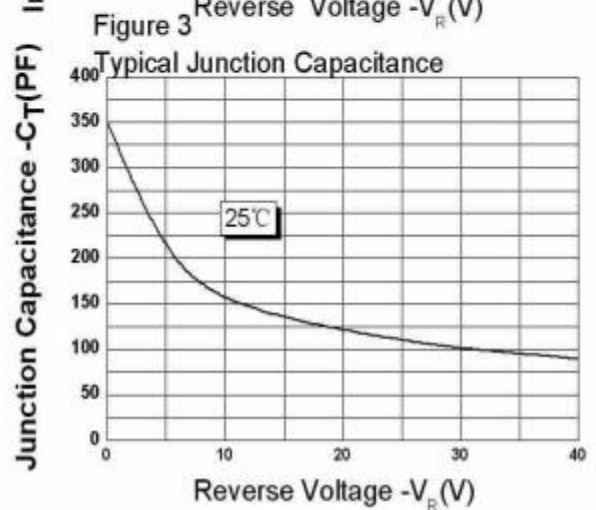
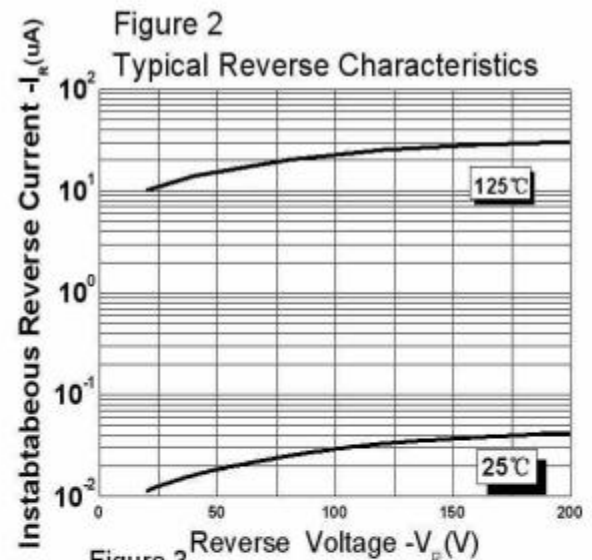
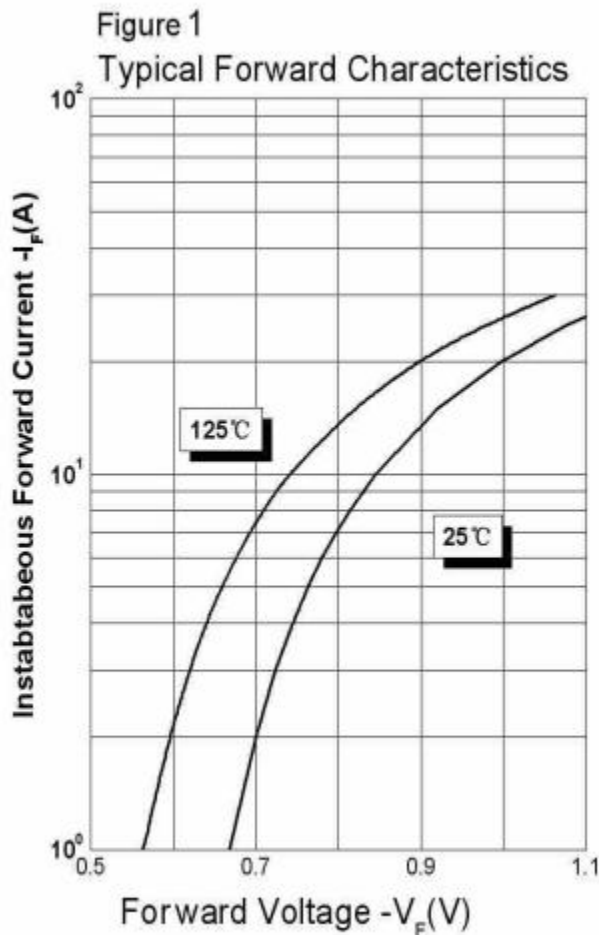
Device	Package	Weight	Shipping
SDUR1540	TO-220AC	1.6g	50pcs / tube
SDURB1540	D ² PAK	1.85g	800pcs / reel
SDURD1540	DPAK	0.39g	2500pcs / reel
SDURF1540	ITO-220AC	1.6g	50pcs / tube

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

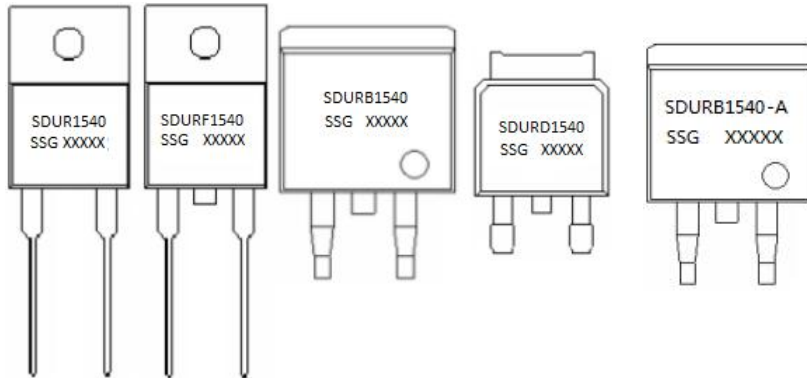
Tube Specification(TO-220AC/ITO-220AC)



Ratings and Characteristics Curves



Marking Diagram

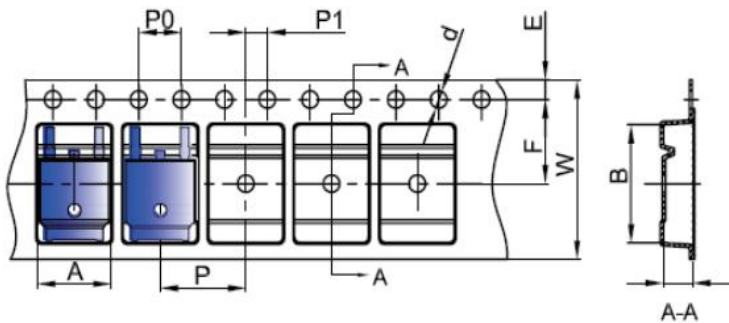


Where XXXXX is YYWWL

SDUR = Device Type
B/D/F = Package type
15 = Forward Current (15A)
400 = Reverse Voltage (400V)
-A = AEC-Q101
SSG = SSG
YY = Year
WW = Week
L = Lot Number

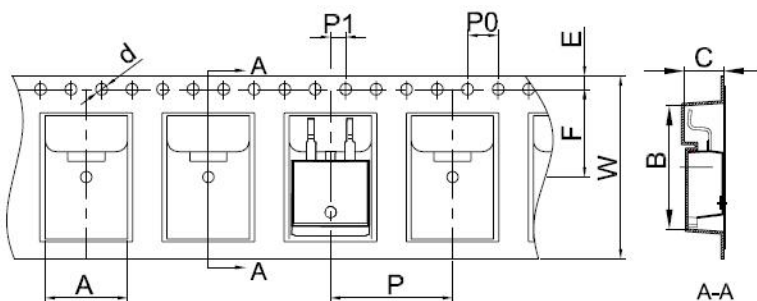
Cautions: Molding resin
Epoxy resin UL:94V-0

Carrier Tape & Reel Specification DPAK



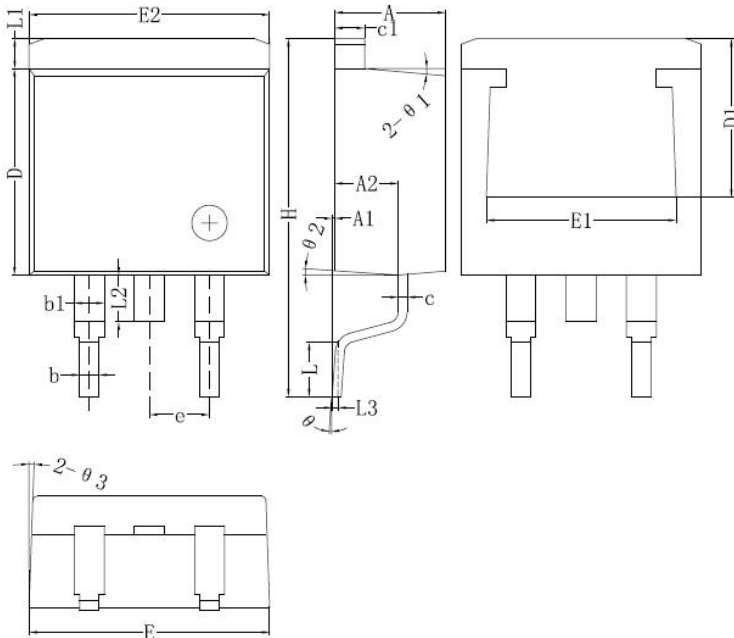
SYMBOL	Millimeters	
	Min.	Max.
A	6.80	7.00
B	10.40	10.60
C	2.60	2.80
d	Φ1.45	Φ1.65
E	1.65	1.85
F	7.40	7.60
P0	3.90	4.10
P	7.90	8.10
P1	1.90	2.10
W	15.90	16.30

Carrier Tape & Reel Specification D²PAK



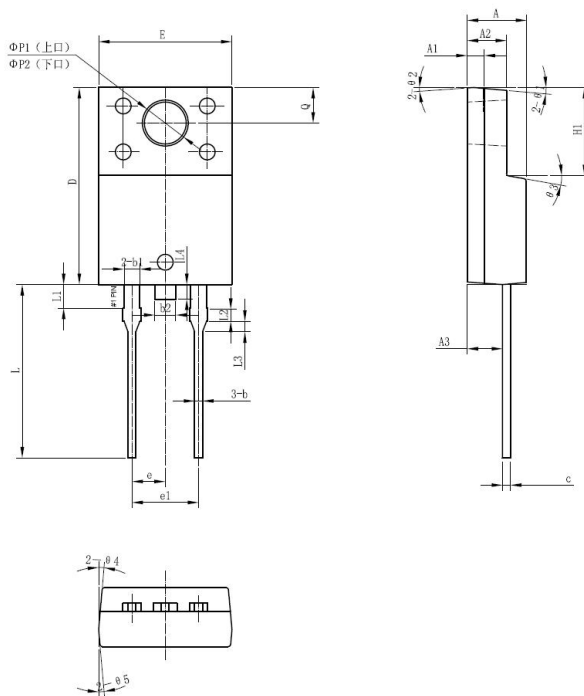
SYMBOL	Millimeters	
	Min.	Max.
A	10.70	10.90
B	16.03	16.23
C	5.11	5.31
d	1.45	1.65
E	1.65	1.85
F	11.40	11.60
P0	3.90	4.10
P	15.90	16.10
P1	1.90	2.10
W	23.90	24.30

Mechanical Dimensions D²PAK



Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.47	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	1.17	1.27	1.37
c	0.31	0.38	0.61
c1	1.17	1.27	1.37
D	8.50	8.70	8.90
D1	6.40		
E	10.01	10.16	10.31
E1	7.6		
E2	9.98	10.08	10.31
e		2.54	
H	14.6	15.1	15.6
L	2.00	2.30	2.74
L1	1.12	1.27	1.42
L2	1.30		2.20
L3		0.25BSC	
e	0	-	8°
e1		5°	
e2		4°	
e3		4°	

Mechanical Dimensions ITO-220AC



SYMBOL	Millimeters		
	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	0.50	0.60	0.75
D	14.80	15.00	15.20
E	9.96	10.16	10.36
e	-	2.55	-
e1	5.00	5.10	5.16
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°	



SDUR1540
SDURB1540
SDURD1540
SDURF1540

Technical Data
Data Sheet N1275, Rev. A



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