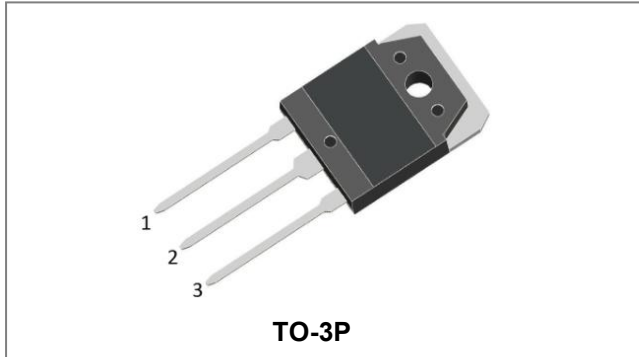


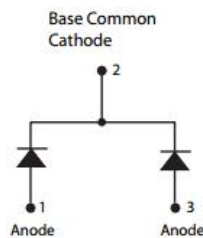
## SDUR6030PT ULTRAFAST RECTIFIER



### 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:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	-	300	V
Average Rectified Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_c=100^\circ\text{C}$ , rectangular wave form	30(Per Leg) 60(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	$I_{FSM}$	8.3ms, Half Sine pulse	400	A

### Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (Per Leg)*	$V_{F1}$	@ 30A, Pulse, $T_J = 25^\circ\text{C}$	1.27	1.3	V
	$V_{F2}$	@ 30A, Pulse, $T_J = 150^\circ\text{C}$	-	1.1	V
Reverse Current (Per Leg)*	$I_{R1}$	@ $V_R = \text{rated } V_R$ $T_J = 25^\circ\text{C}$	0.3	5.0	$\mu\text{A}$
	$I_{R2}$	@ $V_R = \text{rated } V_R$ $T_J = 125^\circ\text{C}$	0.04	1.0	mA
Reverse Recovery Time(Per Leg)	$t_{rr}$	$I_F=500\text{mA}$ , $I_R=1\text{A}$ , and $I_{rm}=250\text{mA}$	35	45	ns

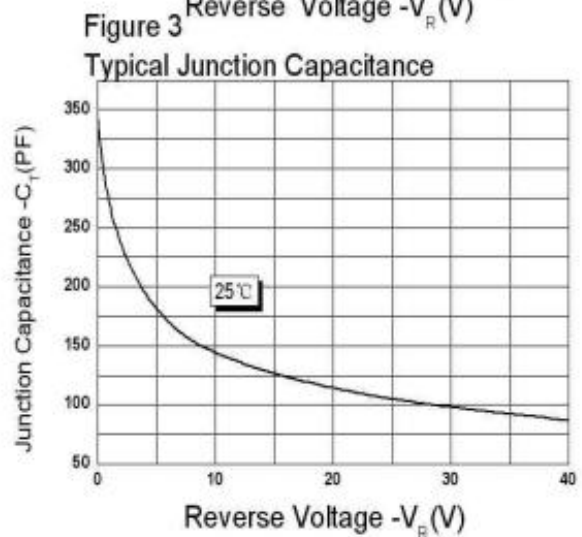
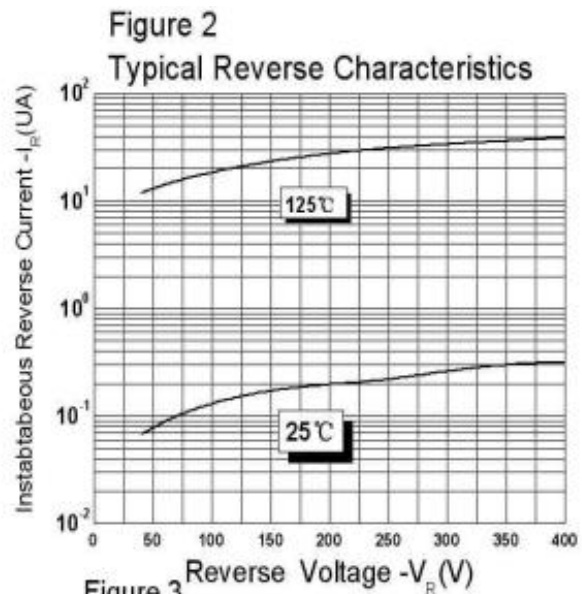
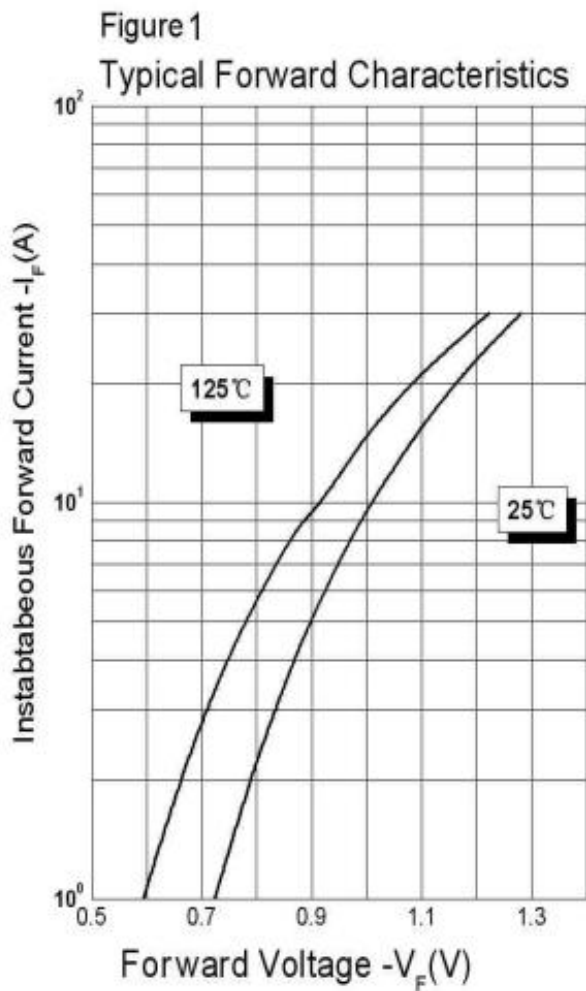
\* Pulse width < 300  $\mu\text{s}$ , duty cycle < 2%

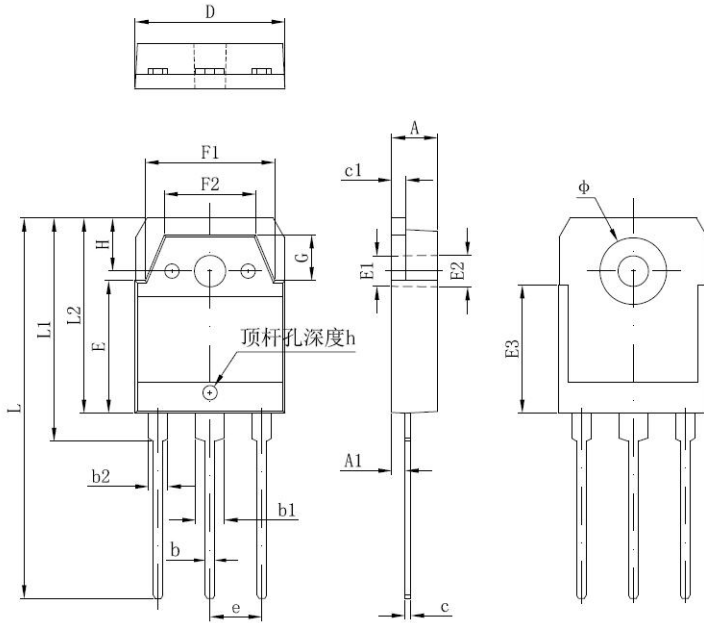
- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - [sales@smc-diodes.com](mailto:sales@smc-diodes.com) •

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	-	-55 to +150	°C
Storage Temperature	$T_{stg}$	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	1.0	°C/W
Approximate Weight	wt	-	6.0	g
Case Style	TO-3P			

**Ratings and Characteristics Curves**



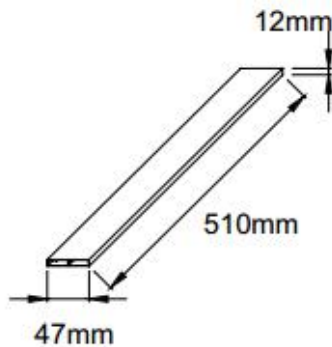
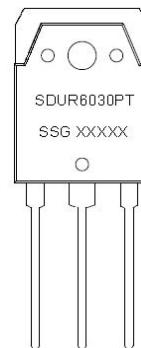
**Mechanical Dimensions TO-3P**


SYMBOL	Millimeters		Inches	
	Min	Max	Min	Max
A	4.60	5.00	0.181	0.197
A1	1.20	1.60	0.047	0.063
b	0.80	1.20	0.031	0.047
b1	2.80	3.20	0.110	0.126
b2	1.80	2.20	0.071	0.087
c	0.50	0.70	0.020	0.028
c1	1.45	1.65	0.057	0.065
D	15.40	18.85	0.606	0.624
E	13.70	14.10	0.539	0.555
E1	3.20 REF		0.126 REF	
E2	3.30 REF		0.130 REF	
E3	13.45 REF		0.530 REF	
F1	13.40	13.80	0.528	0.543
F2	9.40	9.80	0.370	0.386
L	39.90	40.30	1.571	1.587
L1	23.20	23.60	0.913	0.929
L2	19.70	20.60	0.799	0.811
Φ	6.90	7.10	0.272	0.280
G	5.15	5.55	0.203	0.219
e	5.45 TYP		0.215 TYP	
H	5.00 REF		0.197 REF	
h	0.00	0.300	0.000	0.012

**Ordering Information**

Device	Package	Shipping
SDUR6030PT	TO-3P(Pb-Free)	30pcs / 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**

**Marking Diagram**


Where XXXXX is YYWWL

SDUR = Device Type  
 60 = Forward Current (60A)  
 30 = Reverse Voltage (300V)  
 PT = Configuration  
 SSG = SSG  
 YY = Year  
 WW = Week  
 L = Lot Number

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

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