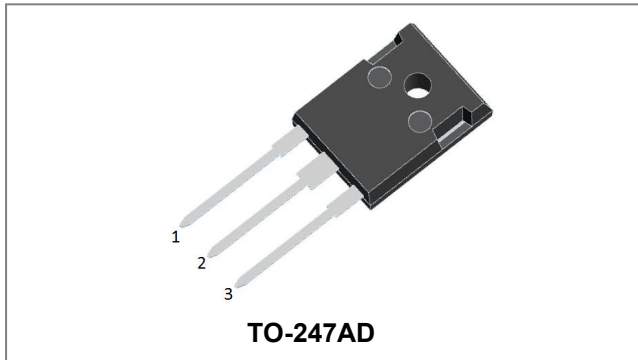


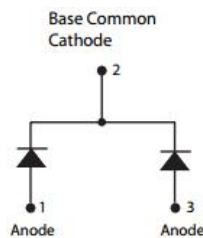
## SDUR6040WT ULTRAFAST RECTIFIER



### 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
- Terminals finish: Tin Lead-free plated
- 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	$V_{RRM}$ $V_{RWM}$ $V_R$	-	400	V
Average Rectified Forward Current	$I_F (AV)$	$T_C = 129^\circ\text{C}$ , In DC	30(Per Leg) 60(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	$I_{FSM}$	10ms, Half Sine pulse	360	A

### Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (Per Leg)*	$V_{F1}$	@30A, Pulse, $T_J = 25^\circ\text{C}$	1.04	1.41	V
	$V_{F2}$	@30A, Pulse, $T_J = 150^\circ\text{C}$	0.92	1.13	V
Reverse Current (Per Leg)*	$I_{R1}$	@ $V_R$ = rated $V_R$ , $T_J = 25^\circ\text{C}$	0.40	5.0	$\mu\text{A}$
	$I_{R2}$	@ $V_R$ = rated $V_R$ , $T_J = 150^\circ\text{C}$	0.90	1.0	mA
Reverse Recovery Time (Per Leg)	$t_{rr}$	$I_F = 500\text{mA}$ , $I_R = 1\text{A}$ , and $I_{rm} = 250\text{mA}$	36	45	ns

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

## 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	0.5	°C/W
Approximate Weight	wt	-	6.28	g
Case Style	TO-247AD			

## Ratings and Characteristics Curves

Figure 1 Typical Forward Characteristics

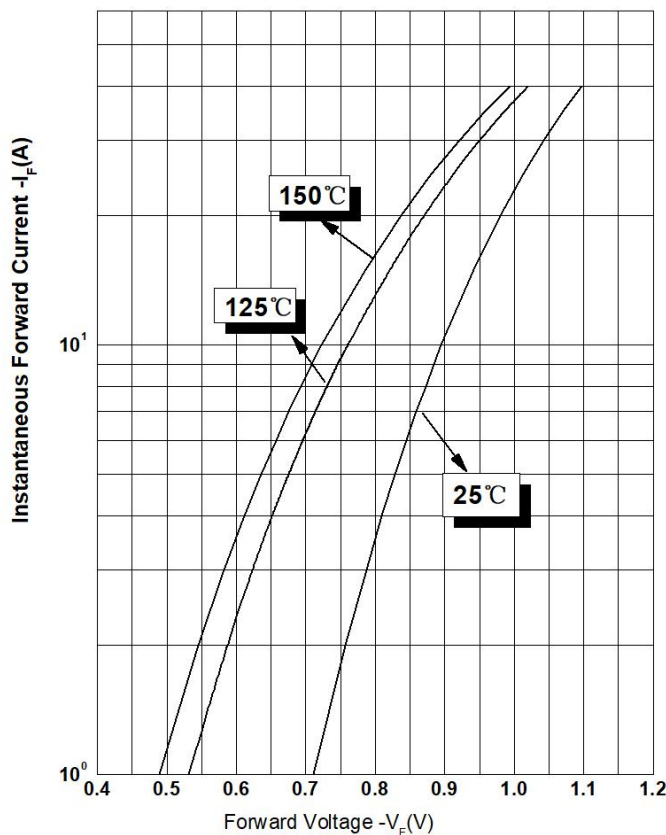


Figure 2 Typical Reverse Characteristics

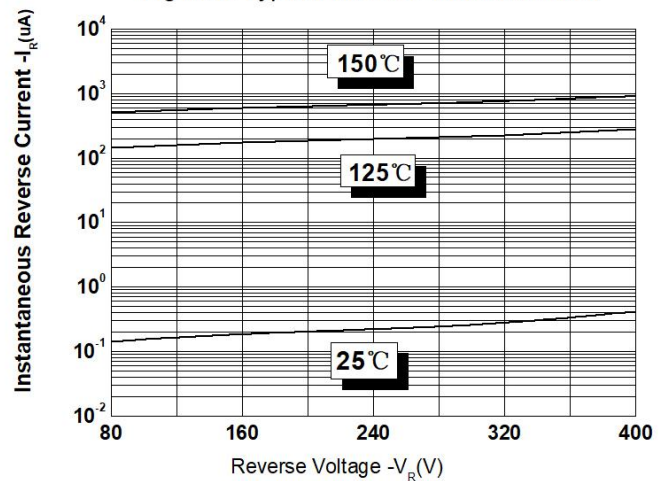
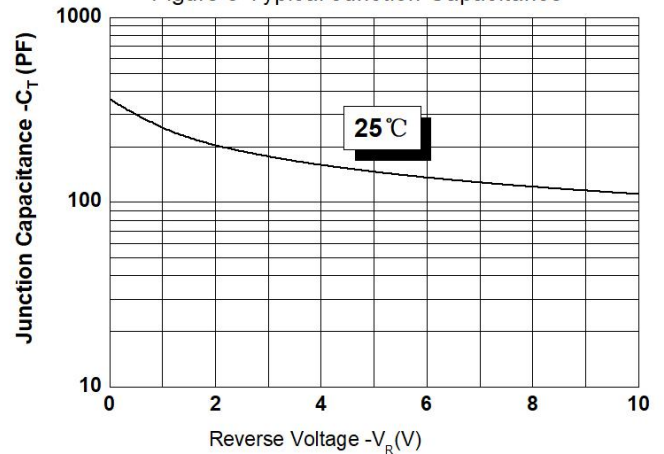
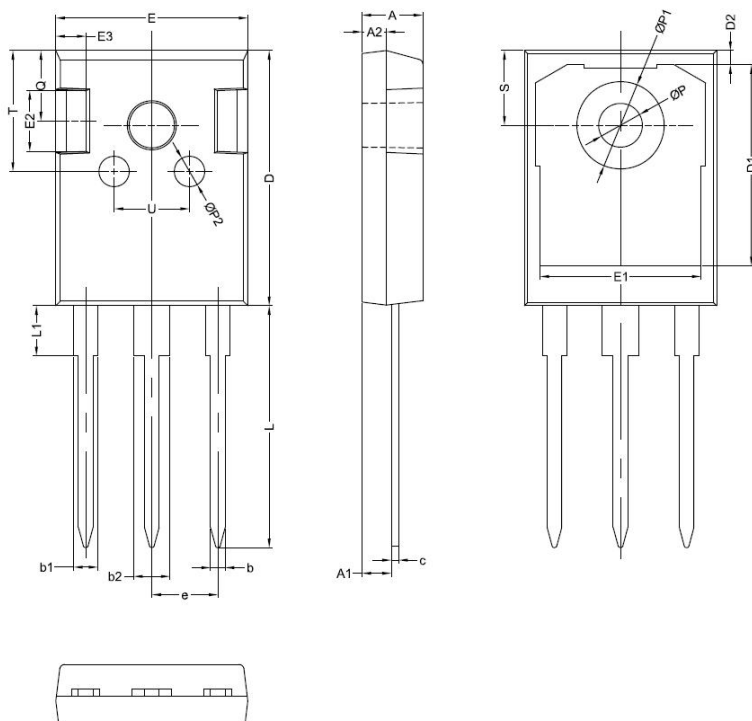


Figure 3 Typical Junction Capacitance

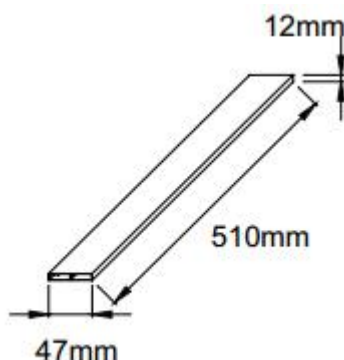
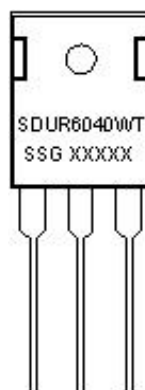


**Mechanical Dimensions TO-247AD**


SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	4.80	5.00	5.20
A1	2.21	2.41	2.61
A2	1.90	2.00	2.10
b	1.10	1.20	1.35
b1		2.00	
b2		3.00	
c	0.55	0.60	0.75
D	20.80	21.00	21.20
D1		16.55	
D2		1.20	
E	15.60	15.80	16.00
E1		13.30	
E2		5.00	
E3		2.50	
e		5.44	
L	19.42	19.92	20.42
L1		4.13	
P	3.50	3.60	3.70
P1			7.40
P2		2.50	
Q		5.80	
S	6.05	6.15	6.25
T		10.00	
U		6.20	

**Ordering Information:**

Device	Package	Shipping
SDUR6040WT	TO-247AD(Pb-Free)	25pcs / tube

**Tube Specification**

**Marking Diagram**


Where XXXXX is YYWWL

SDUR = Device Type  
 60 = Forward Current (60A)  
 40 = Reverse Voltage (400V)  
 WT = Configuration  
 SSG = SSG  
 YY = Year  
 WW = Week  
 L = Lot Number

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

**Technical Data**  
**Data Sheet N0166, Rev. D**



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