

### Features

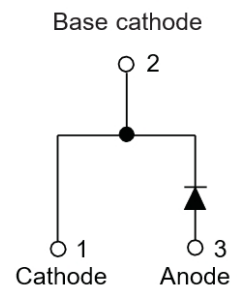
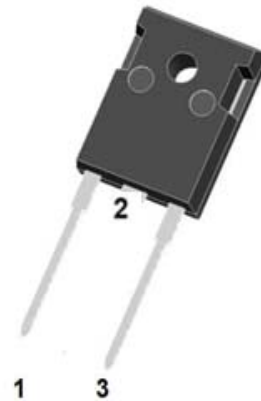
- Adopt FRED chip
- Low forward Voltage drop
- Fast reverse recovery time
- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability

### Typical Applications

- Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

### Mechanical Data

- **Package:** TO-247AC  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked



TYPE	V <sub>RSM</sub> V	V <sub>RRM</sub> V
<b>MUR8060P</b>	600	600

### ABSOLUTE MAXIMUM RATINGS ( $T_C=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter/Test Conditions		Values	Unit
V <sub>R</sub>	Maximum D.C. Reverse Voltage		600	V
V <sub>RRM</sub>	Maximum Repetitive Reverse Voltage			
I <sub>F(AV)</sub>	Average Forward Current	T <sub>C</sub> =105°C	80	A
I <sub>F(RMS)</sub>	RMS Forward Current	T <sub>C</sub> =105°C	105	
I <sub>FSM</sub>	Non Repetitive Surge Forward Current	T <sub>J</sub> =25°C, t=10ms, 50Hz, Sine	725	
P <sub>D</sub>	Power Dissipation		329	W
T <sub>J</sub>	Junction Temperature		-55 to +175	°C
T <sub>STG</sub>	Storage Temperature Range		-55 to +175	°C
Torque	To Heat Sink	Recommended (M3)	1.1	Nm
R <sub>thJC</sub>	Junction to Case Thermal Resistance		0.38	°C /W
Weight			6	g

**ELECTRICAL CHARACTERISTICS** ( $T_C=25^{\circ}\text{C}$  unless otherwise specified)

Symbol	Parameter/Test Conditions	Min.	Typ.	Max.	Unit
$I_{RM}$	Maximum Reverse Leakage Current	$V_R = 600\text{V}$		10	$\mu\text{A}$
		$V_R = 600\text{V}, T_J = 125^{\circ}\text{C}$		1	$\text{mA}$
$V_F$	Forward Voltage	$I_F = 80\text{A}$	1.55	1.7	V
		$I_F = 80\text{A}, T_J = 125^{\circ}\text{C}$	1.5		
trr	Reverse Recovery Time ( $I_F = 1\text{A}, dI_F/dt = -200\text{A}/\mu\text{s}, V_R = 30\text{V}$ )		35	45	ns
trr	Reverse Recovery Time ( $I_F = 0.5\text{A}, I_R = 1\text{A}, I_{RR} = 0.25\text{A}$ )		65	75	ns

**ELECTRICAL CHARACTERISTICS** ( $T_C=25^{\circ}\text{C}$  unless otherwise specified)

Symbol	Parameter/Test Conditions	Min.	Typ.	Max.	Unit
trr	Reverse Recovery Time		80		ns
$I_{RRM}$	Maximum Reverse Recovery Current	$I_F = 80\text{A}, V_R = 300\text{V}, dI_F/dt = -200\text{A}/\mu\text{s}$	6		A
$Q_{RR}$	Reverse Recovery Charge		300		nC
trr	Reverse Recovery Time		240		ns
$I_{RRM}$	Maximum Reverse Recovery Current	$I_F = 80\text{A}, V_R = 300\text{V}, dI_F/dt = -200\text{A}/\mu\text{s}, T_J = 125^{\circ}\text{C}$	10		A
$Q_{RR}$	Reverse Recovery Charge		1150		nC

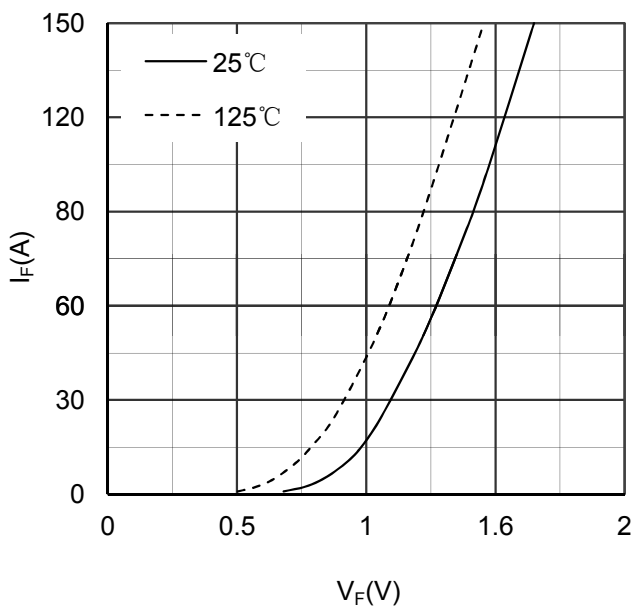
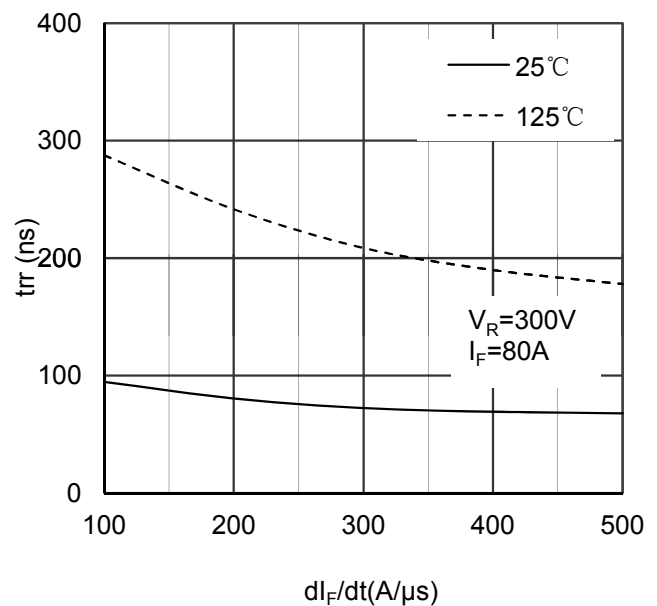


Figure 1. Forward Voltage Drop vs Forward Current


 Figure 2. Reverse Recovery Time vs  $dI_F/dt$

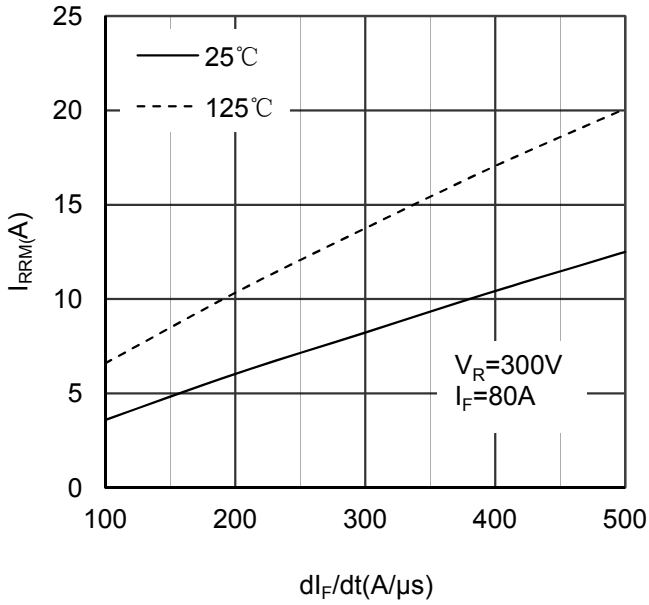


Figure 3. Reverse Recovery Current vs  $di_F/dt$

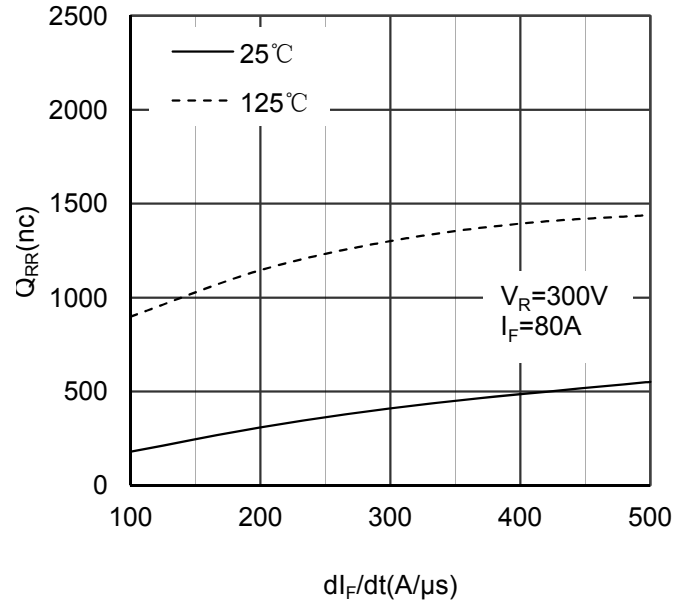


Figure 4. Reverse Recovery Charge vs  $di_F/dt$

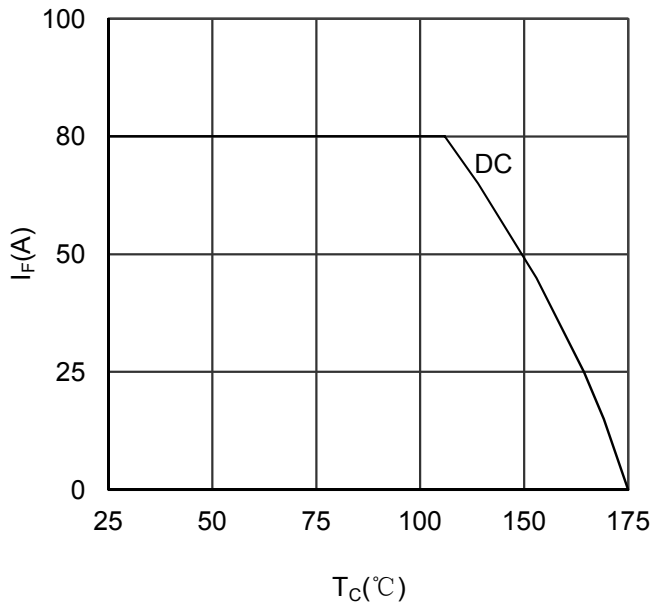


Figure 5. Forward current vs Case temperature

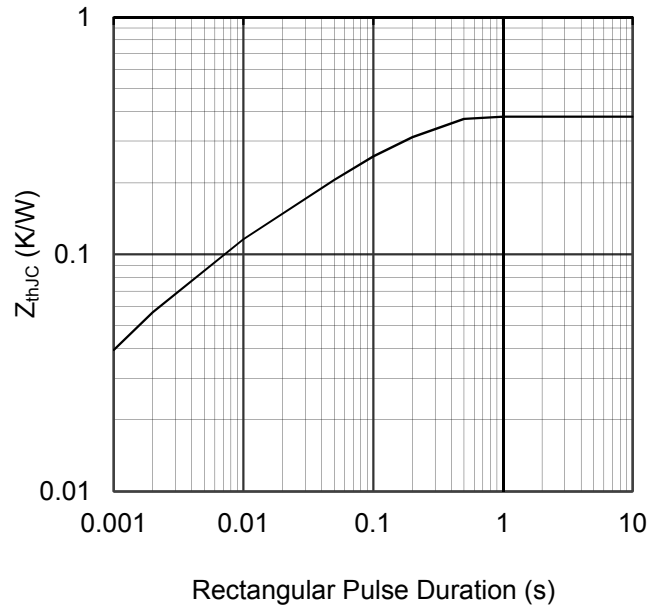
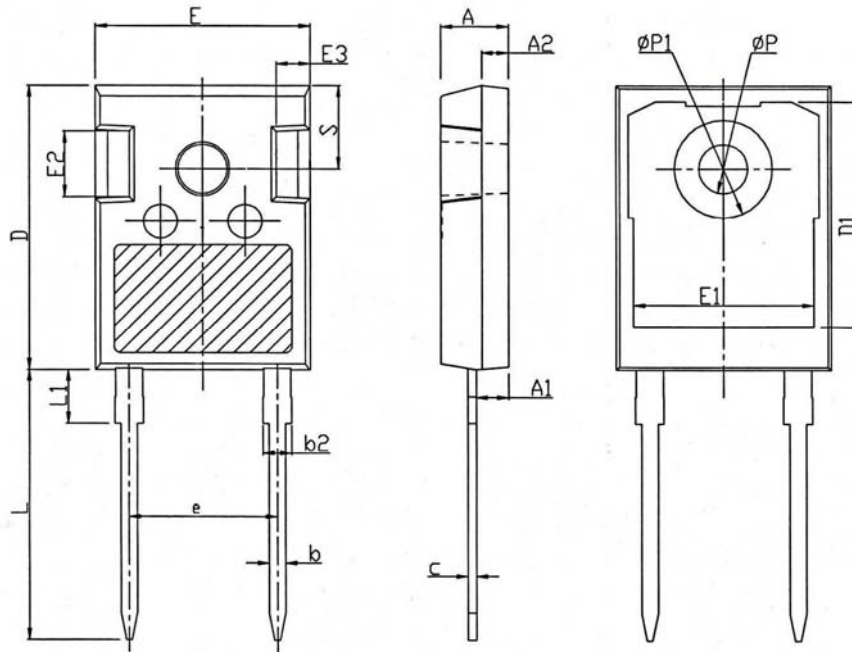


Figure 6. Transient Thermal Impedance

**■ Outline Dimensions**


T0247-AC		
Dim	Min	Max
A	4.80	5.20
A1	2.21	2.61
A2	1.85	2.15
b	1.11	1.36
b2	1.91	2.21
c	0.51	0.75
D	20.70	21.30
D1	16.25	16.85
E	15.50	16.10
E1	13.00	13.60
E2	4.80	5.20
E3	2.30	2.70
e	10.88 TYP	
L	19.62	20.22
L1	-	4.30
$\phi P$	3.40	3.80
$\phi P_1$	-	7.30
S	6.15 TYP	

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