

Features

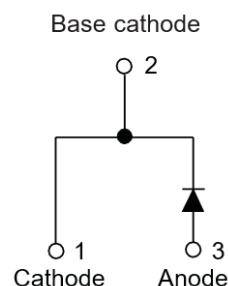
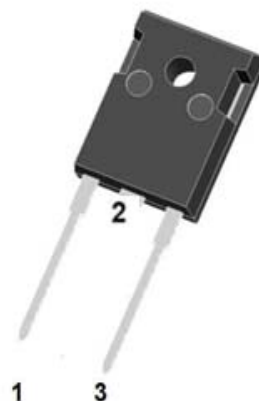
- Adopt FRED chip
- Low forward Voltage drop
- Fast reverse recovery time
- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability

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 _{RSM} V	V _{RRM} V
MUR8060P	600	600

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

Symbol	Parameter/Test Conditions		Values	Unit
V _R	Maximum D.C. Reverse Voltage		600	V
V _{RRM}	Maximum Repetitive Reverse Voltage			
I _{F(AV)}	Average Forward Current	T _C =105℃	80	A
I _{F(RMS)}	RMS Forward Current	T _C =105℃	105	
I _{FSM}	Non Repetitive Surge Forward Current	T _J =25℃,t=10ms, 50Hz, Sine	725	
P _D	Power Dissipation		329	W
T _J	Junction Temperature		-55 to +175	℃
T _{STG}	Storage Temperature Range		-55 to +175	℃
Torque	To Heat Sink	Recommended (M3)	1.1	Nm
R _{thJC}	Junction to Case Thermal Resistance		0.38	℃ /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	μA
		$V_R=600\text{V}, T_J=125^{\circ}\text{C}$		1	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		
t_{rr}	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
t_{rr}	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
t_{rr}	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
t_{rr}	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

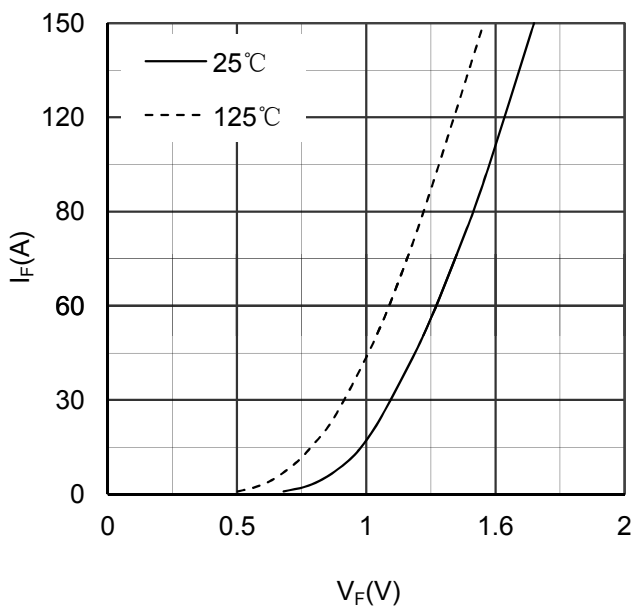
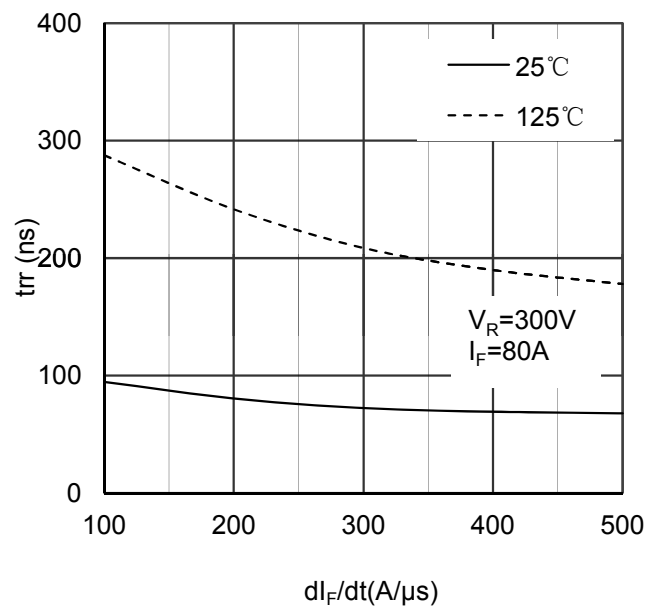


Figure 1. Forward Voltage Drop vs Forward Current


 Figure 2. Reverse Recovery Time vs dI_F/dt

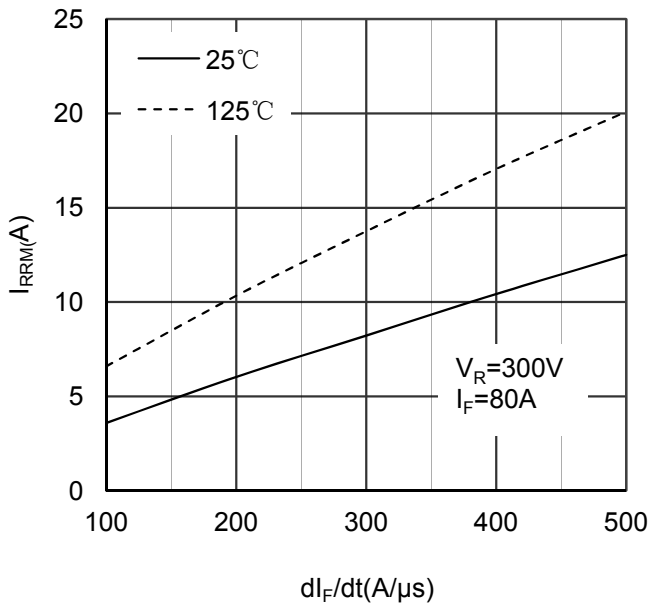


Figure 3. Reverse Recovery Current vs di_F/dt

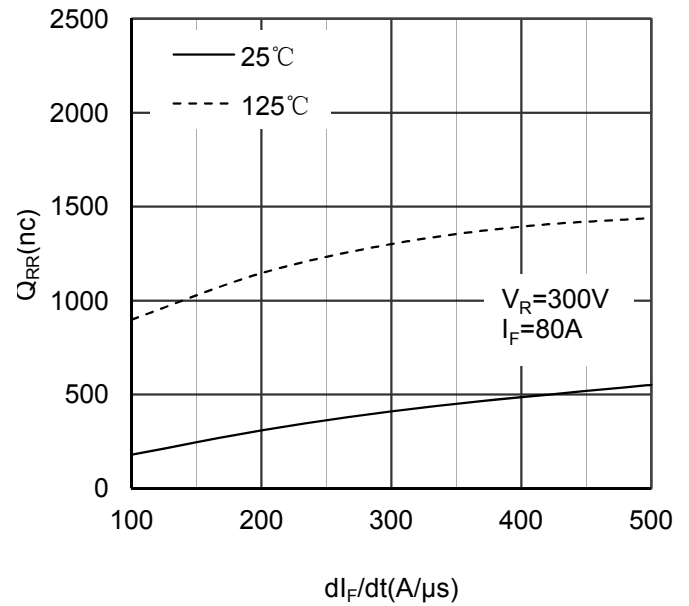


Figure 4. Reverse Recovery Charge vs di_F/dt

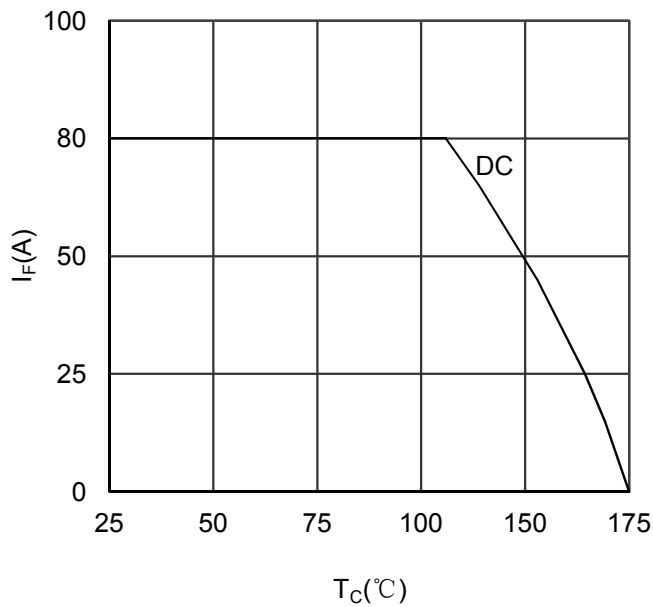


Figure 5. Forward current vs Case temperature

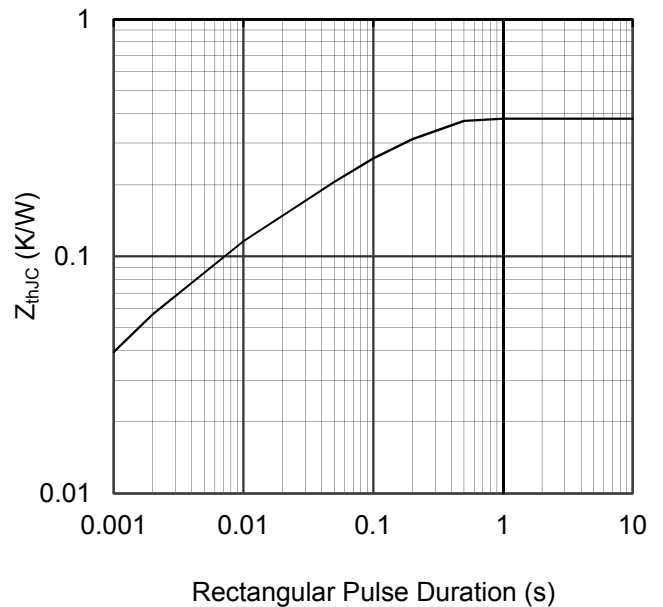
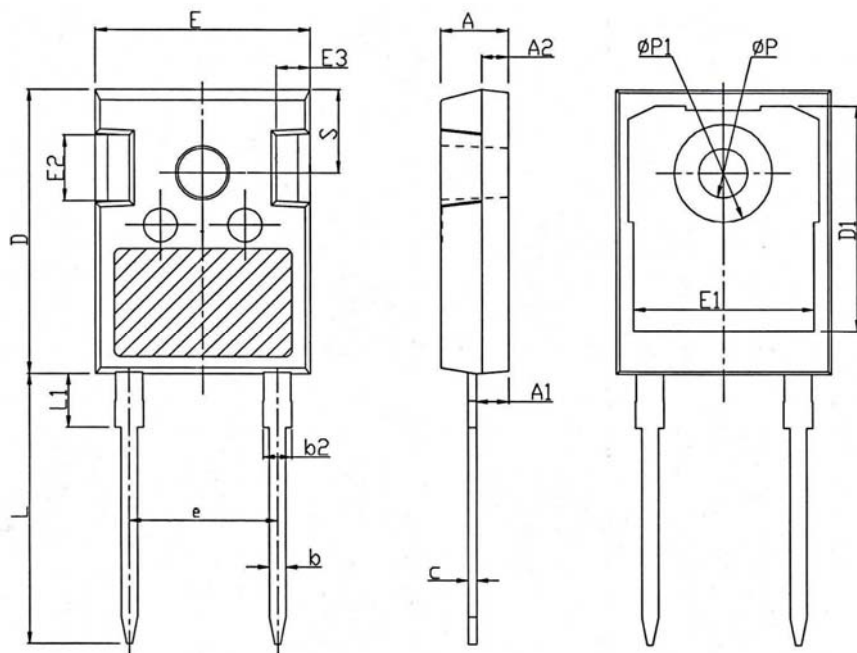


Figure 6. Transient Thermal Impedance

■ Outline Dimensions



TO247-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
ϕP	3.40	3.80
$\phi P1$	-	7.30
S	6.15 TYP	