

Features

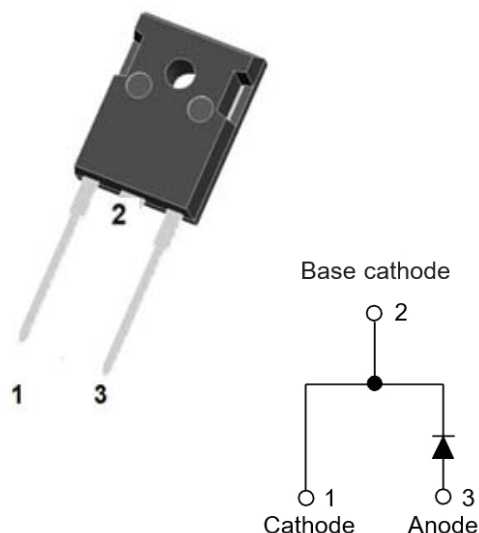
- Adopt FRED chip
- Low forward Voltage drop
- Fast reverse recovery time
- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability

Typical Applications

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

Mechanical Data

- **Package:** TO-247-2L
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



	V_{RSM}	V_{RRM}
	V	V
MUR6065	650	650

Symbol	Test Conditions	Maximum Ratings	Unit
I_{FRMS}	$T_{VJ}=T_{VJM}$	100	A
I_{FAVM}	$T_C=70^{\circ}C$; rectangular, $d=0.5$	60	
I_{FRM}	$t_p<10\mu s$; rep. rating, pulse width limited by T_{VJM}	800	
I_{FSM}	$T_{VJ}=45^{\circ}C$ $t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	550 600	A
	$T_{VJ}=150^{\circ}C$ $t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	480 520	
I^2t	$T_{VJ}=45^{\circ}C$ $t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	1510 1490	A^2s
	$T_{VJ}=150^{\circ}C$ $t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	1150 1120	
T_{VJ} T_{VJM} T_{stg}		-55...+175 175 -55...+175	$^{\circ}C$
P_{tot}	$T_C=25^{\circ}C$	166	W
M_d	Mounting torque	0.8...1.2	Nm
Weight	typical	6	g

■Electrical Characteristics

Symbol	Test Conditions	Characteristic Values		Unit
		typ.	max.	
I_R	$T_{VJ}=25^{\circ}\text{C}; V_R=V_{RRM}$		200	μA
	$T_{VJ}=25^{\circ}\text{C}; V_R=0.8 \cdot V_{RRM}$		100	μA
	$T_{VJ}=125^{\circ}\text{C}; V_R=0.8 \cdot V_{RRM}$		14	mA
V_F	$I_F=60\text{A}; T_{VJ}=150^{\circ}\text{C}$		1.5	V
	$T_{VJ}=25^{\circ}\text{C}$		1.7	
V_{TO}	For power-loss calculations only		1.13	V
r_T	$T_{VJ}=T_{VJM}$		4.7	$\text{m}\Omega$
R_{thJC} R_{thCK} R_{thJA}		0.25	0.75 35	K/W
t_{rr}	$I_F=1\text{A}; -di/dt=200\text{A}/\mu\text{s}; V_R=30\text{V}; T_{VJ}=25^{\circ}\text{C}$	40	60	ns
I_{RM}	$V_R=350\text{V}; I_F=60\text{A}; -di_F/dt=480\text{A}/\mu\text{s}; L \leq 0.05\mu\text{H}; T_{VJ}=100^{\circ}\text{C}$	19	21	A

■Thermal Characteristics ($T_J=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MUR6065P
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	$^{\circ}\text{C/W}$	1.0
	Between junction and Air	$R_{\theta J-A}$	$^{\circ}\text{C/W}$	50

■ Characteristics(Typical)

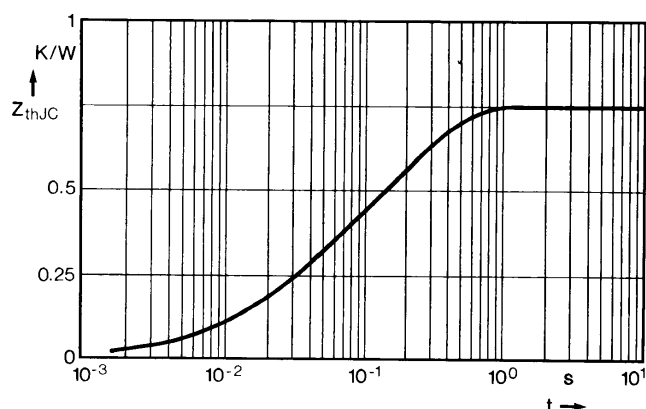


Fig. 7 Transient thermal impedance junction to case.

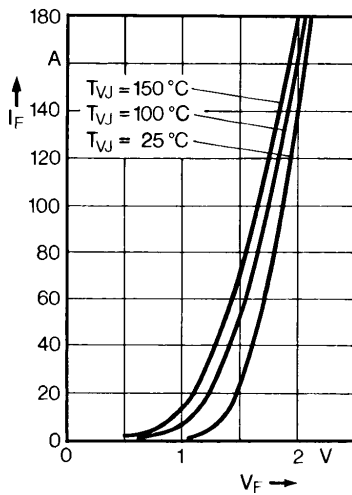


Fig. 1 Forward current versus voltage drop.

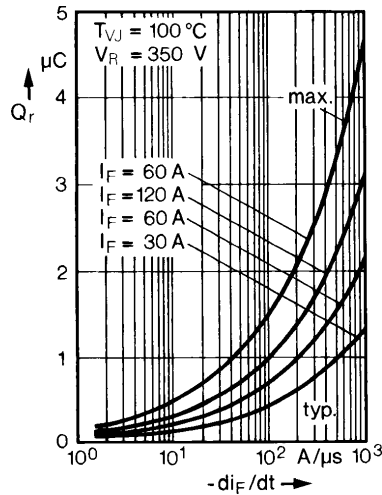


Fig. 2 Recovery charge versus $-di_F/dt$.

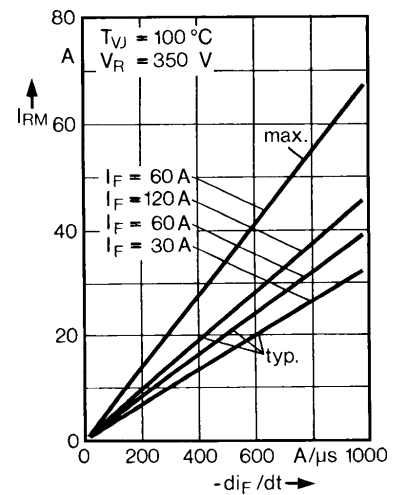


Fig. 3 Peak reverse current versus $-di_F/dt$.

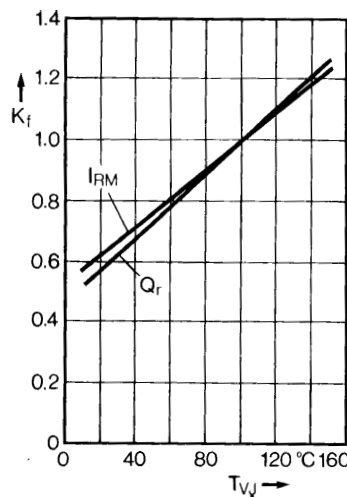


Fig. 4 Dynamic parameters versus junction temperature.

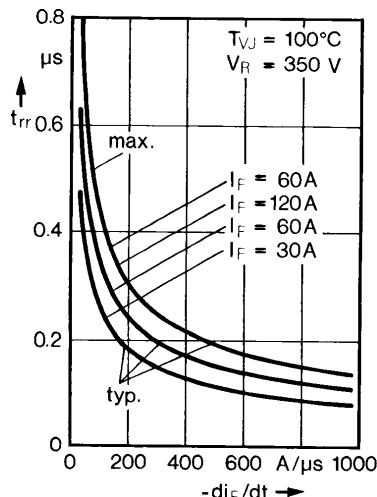


Fig. 5 Recovery time versus $-di_F/dt$.

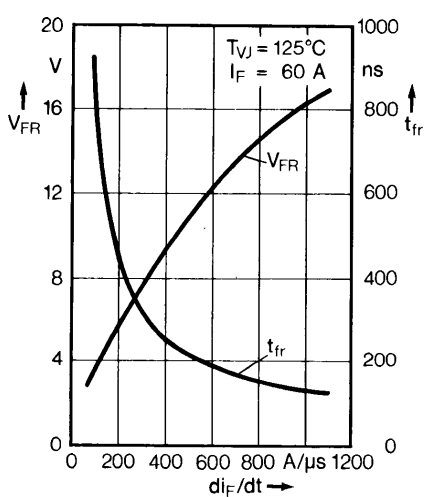
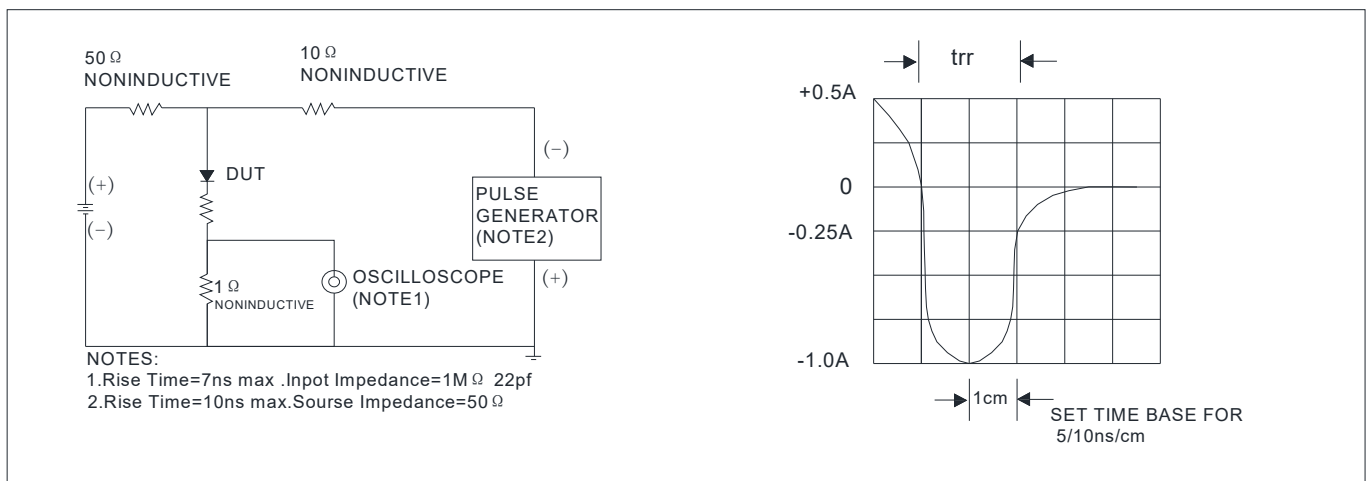
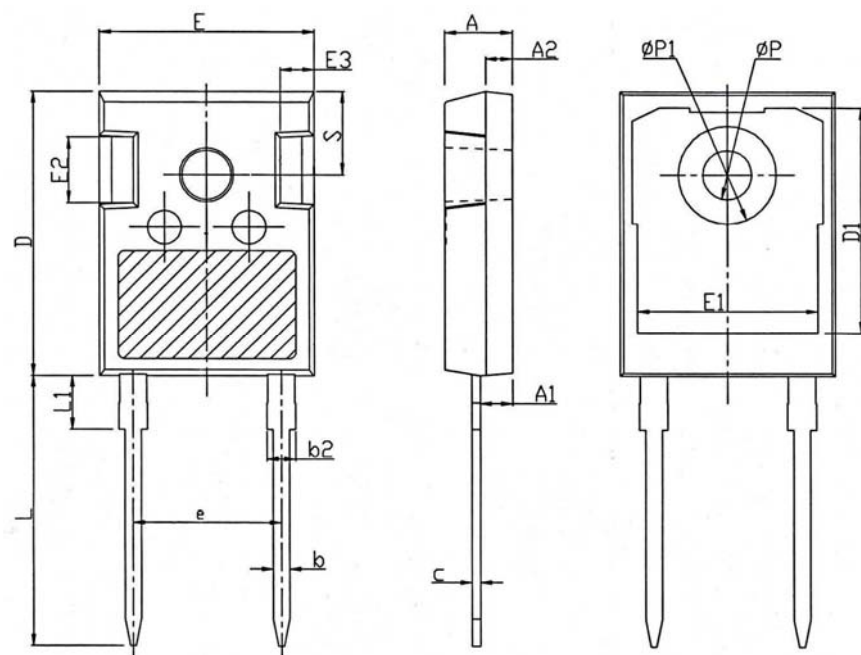


Fig. 6 Peak forward voltage versus di_F/dt .

FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■ Outline Dimensions



TO-247-2L		
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	

Package	Packing	Box Size L×W×H(mm)	Quantity(pcs/box)	Carton Size L×W×H(mm)	Quantity(pcs/carton)
TO-247	30pcs/Tube	570×155×50	450	580×340×125	1800