

Features

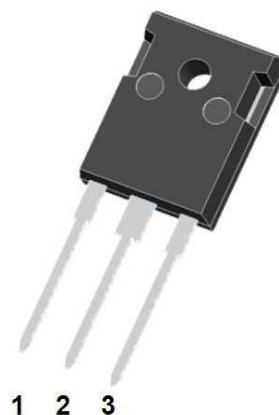
- Adopt FRED chip
- Low forward Voltage drop
- Fast reverse recovery time
- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability

Typical Applications

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

Mechanical Data

- **Package:** TO-247-3L
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
MUR6060PLT	600	600

■Maximum Ratings (T_j=25°C Unless otherwise specified)

Symbol	Test Conditions	Maximum Ratings	Unit
I _{FRMS} I _{FAVM} I _{FRM}	T _{VJ} =T _{VJM} T _C =85°C; rectangular, d=0.5 t _p <10us; rep. rating, pulse width limited by T _{VJM}	50 60 375	A
I _{FSM}	T _{VJ} =45°C t=10ms (50Hz), sine t=8.3ms (60Hz), sine	300 320	A
	T _{VJ} =150°C t=10ms(50Hz), sine t=8.3ms(60Hz), sine	260 280	
I ² t	T _{VJ} =45°C t=10ms (50Hz), sine t=8.3ms (60Hz), sine	450 420	A ² s
	T _{VJ} =150°C t=10ms(50Hz), sine t=8.3ms(60Hz), sine	340 320	
T _{VJ} T _{VJM} T _{stg}		-40...+150 150 -40...+150	°C
P _{tot}	T _C =25°C	125	W
M _d	Mounting torque	0.8...1.2	Nm
Weight	typical	6	g

■Electrical Characteristics (T_j=25°C Unless otherwise specified)

Symbol	Test Conditions	Characteristic Values typ.	max.	Unit
I _R	T _{VJ} =25°C; V _R =V _{RRM} T _{VJ} =25°C; V _R =0.8·V _{RRM} T _{VJ} =125°C; V _R =0.8·V _{RRM}		100 50 7	uA uA mA
V _F	I _F =30A; T _{VJ} =150°C T _{VJ} =25°C		1.45 1.7	V
V _{TO}	For power-loss calculations only		1.01	V
r _T	T _{VJ} =T _{VJM}		7.1	mΩ
R _{thJC} R _{thCK} R _{thJA}		0.25	1 70	K/W
t _{rr}	I _F =1A; -di/dt=100A/us; V _R =30V; T _{VJ} =25°C	35	50	ns
I _{RM}	V _R =350V; I _F =30A; -diF/dt=240A/us; L≤0.05uH; T _{VJ} =100°C	10	11	A

■Thermal Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MUR6060PLT
Thermal Resistance	Between junction and case	R _{θJ-C}	°C/W	1.0
	Between junction and Air	R _{θJ-A}	°C/W	50

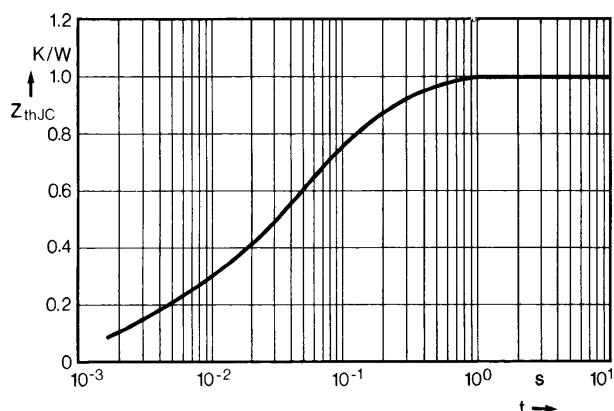


Fig. 7 Transient thermal impedance junction to case.

■ Characteristics(Typical)

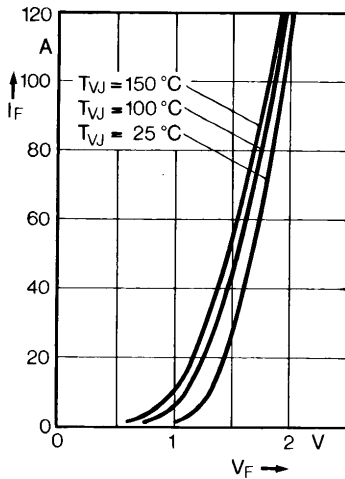


Fig. 1 Forward current versus voltage drop.

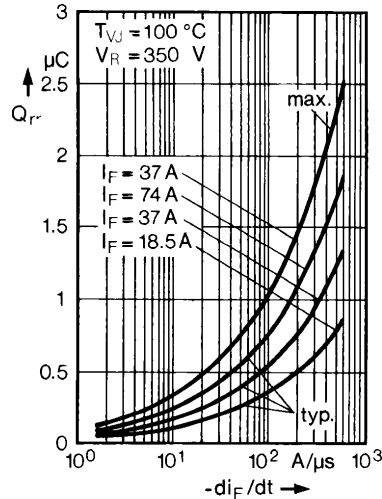


Fig. 2 Recovery charge versus $-di_F/dt$.

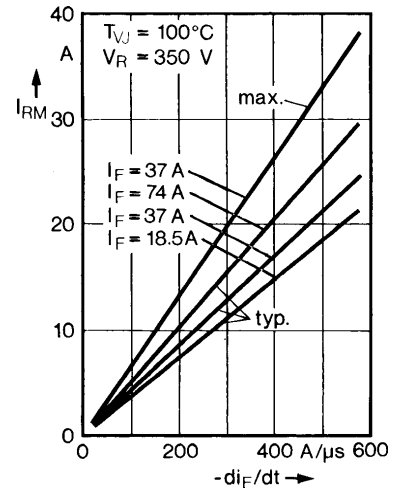


Fig. 3 Peak reverse current versus $-di_F/dt$.

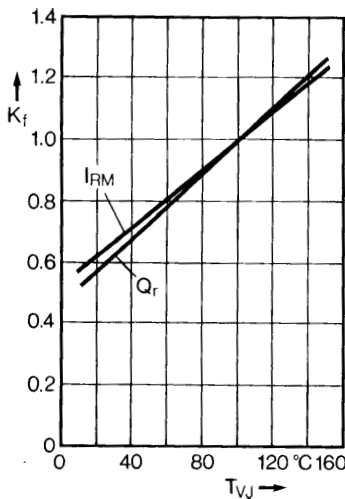


Fig. 4 Dynamic parameters versus junction temperature.

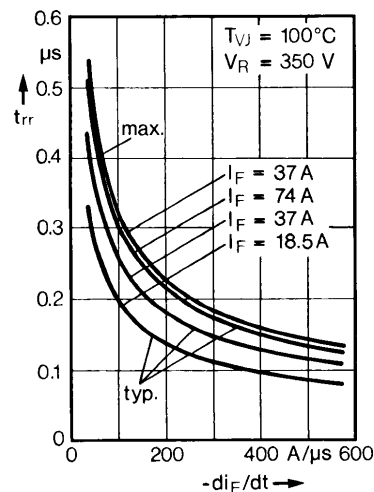


Fig. 5 Recovery time versus $-di_F/dt$.

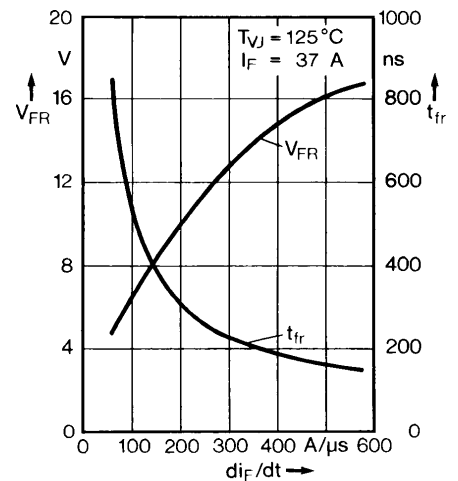
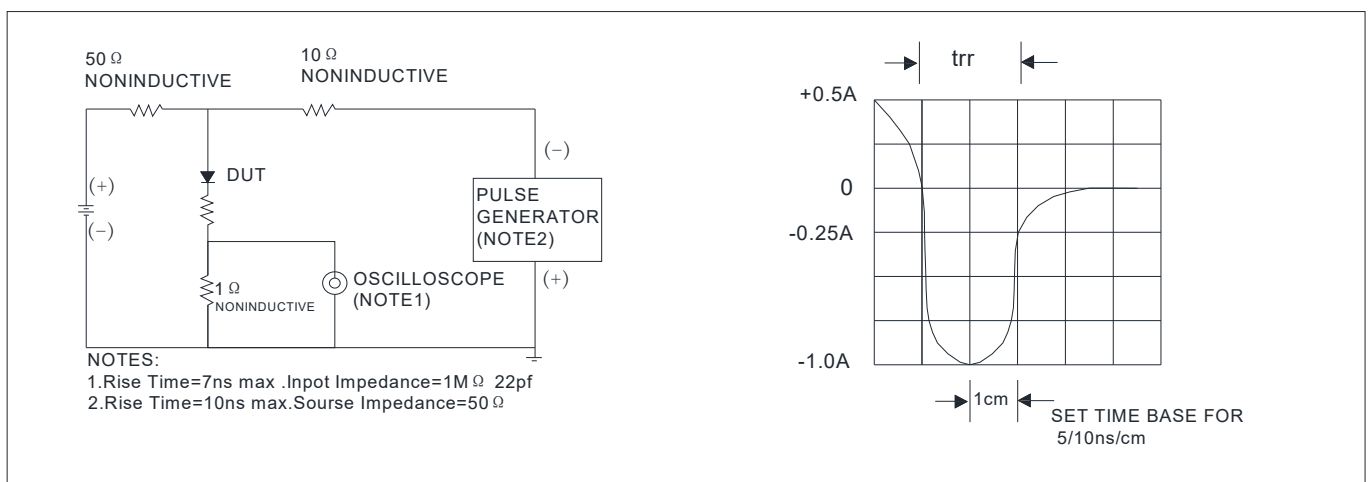
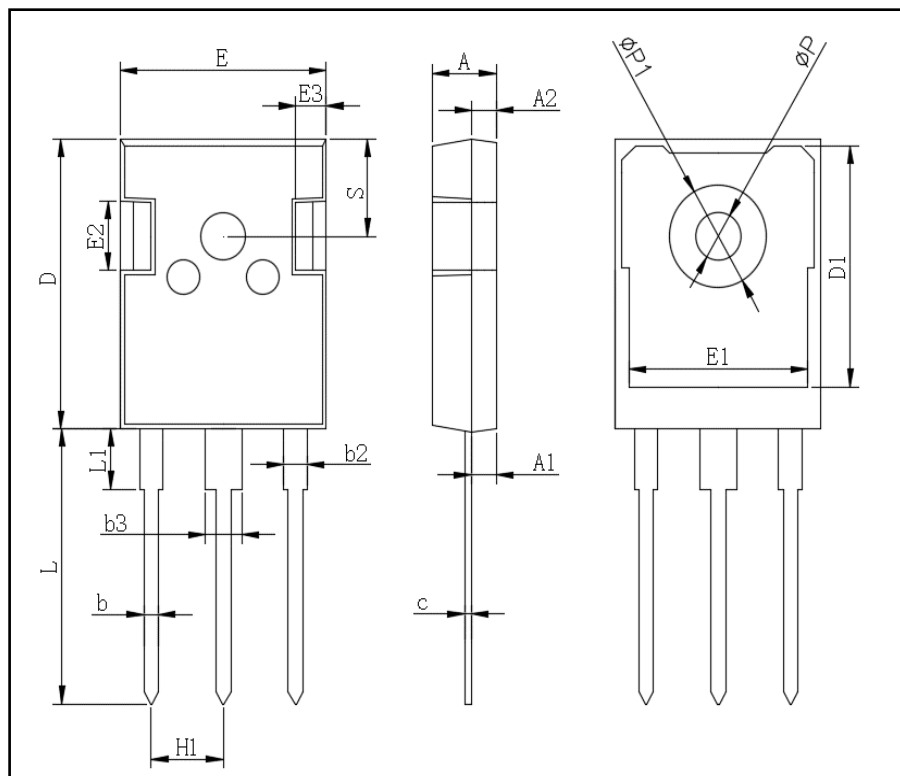


Fig. 6 Peak forward voltage versus di_F/dt .

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



■ Outline Dimensions



TO-247-3L		
Dim	Min	Max
A	4.80	5.20
A1	2.21	2.61
A2	1.85	2.15
b	1.0	1.4
b2	1.91	2.21
C	0.5	0.7
D	20.70	21.30
D1	16.25	16.85
E	15.50	16.10
E1	13.0	13.6
E2	4.80	5.20
E3	2.30	2.70
L	19.62	20.22
L1	-	4.30
ØP	3.40	3.80
ØP1	-	7.30
S	6.15TYP	
H1	5.44TYP	
b3	2.80	3.20

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