



Features

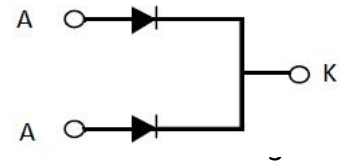
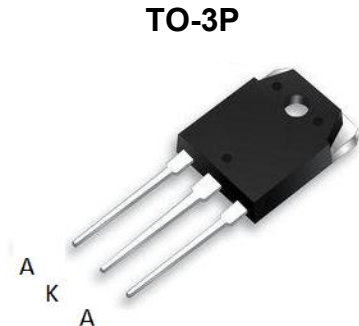
- Adopt FRED chip
- Low forward Voltage drop
- Fast reverse recovery time
- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability

Typical Applications

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

Mechanical Data

- **Package:** TO-3P
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	V_{RRM} V
MUR3060P3T	600	600

■Maximum Ratings ($T_j=25^{\circ}\text{C}$ Unless otherwise specified)

Symbol	Test Conditions	Maximum Ratings	Unit
I_{FRMS} I_{FAVM} I_{FRM}	$T_{VJ}=T_{VJM}$ $T_c=100^{\circ}\text{C}$; rectangular, $d=0.5$ $t_p<10\mu\text{s}$; rep. rating, pulse width limited by T_{VJM}	25 30 150	A
I_{FSM}	$T_{VJ}=45^{\circ}\text{C}$ $t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	100 110	A
	$T_{VJ}=150^{\circ}\text{C}$ $t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	85 95	
I^2t	$T_{VJ}=45^{\circ}\text{C}$ $t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	50 50	A^2s
	$T_{VJ}=150^{\circ}\text{C}$ $t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	36 37	
T_{VJ} T_{VJM} T_{stg}		-40...+150 150 -40...+150	$^{\circ}\text{C}$
P_{tot}	$T_c=25^{\circ}\text{C}$	62	W
M_d	Mounting torque	0.4...0.6	Nm
Weight	typical	6	g

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

Symbol	Test Conditions	Characteristic Values		Unit
		typ.	max.	
I _R	T _{VJ} =25°C; V _R =V _{RRM}		50	uA
	T _{VJ} =25°C; V _R =0.8·V _{RRM}		25	uA
	T _{VJ} =125°C; V _R =0.8·V _{RRM}		3	mA
V _F	I _F =15A; T _{VJ} =150°C T _{VJ} =25°C		1.5 1.7	V
V _{TO}	For power-loss calculations only		1.12	V
r _r	T _{VJ} =T _{VJM}		23.2	mΩ
R _{thJC} R _{thCK} R _{thJA}		0.5	2 60	K/W
t _{rr}	I _F =1A; -di/dt=50A/us; V _R =30V; T _{VJ} =25°C	35	50	ns
I _{RM}	V _R =350V; I _F =15A; -di _F /dt=100A/us; L≤0.05uH; T _{VJ} =100°C	4	4.4	A

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

PARAMETER		SYMBOL	UNIT	MUR3060P3T
Thermal Resistance	Between junction and case	R _{θJ-C}	°CW	1.0
	Between junction and Air	R _{θJ-A}	°CW	50

Fig. 7 Transient thermal impedance junction to case.

■ Characteristics(Typical)

Fig. 1 Forward current versus voltage drop.

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

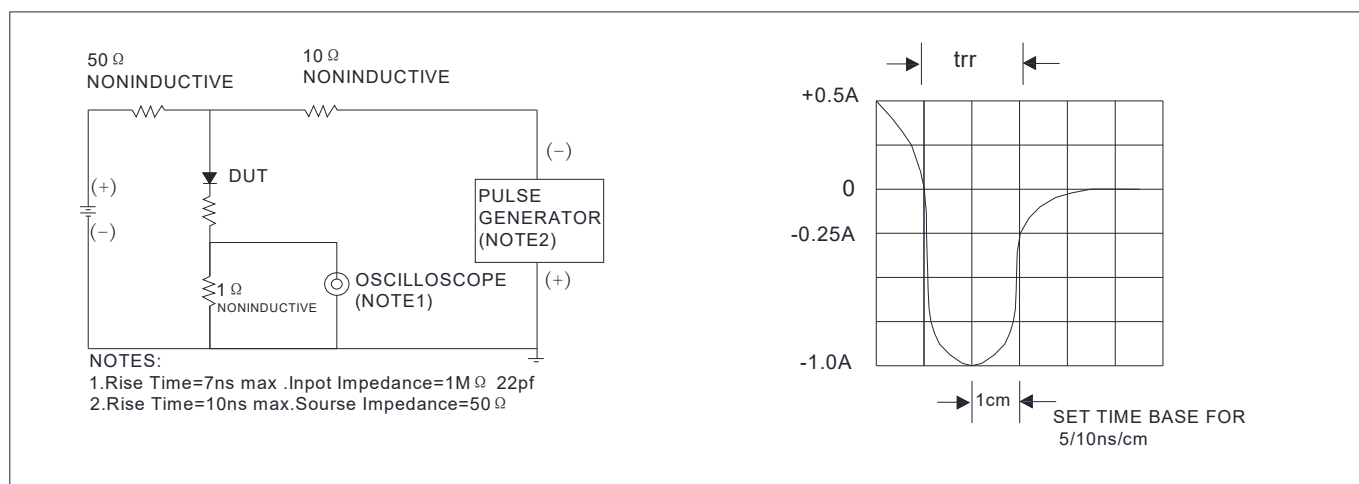
Fig. 3 Peak reverse current versus $-di_F/dt$.

Fig. 4 Dynamic parameters versus junction temperature.

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

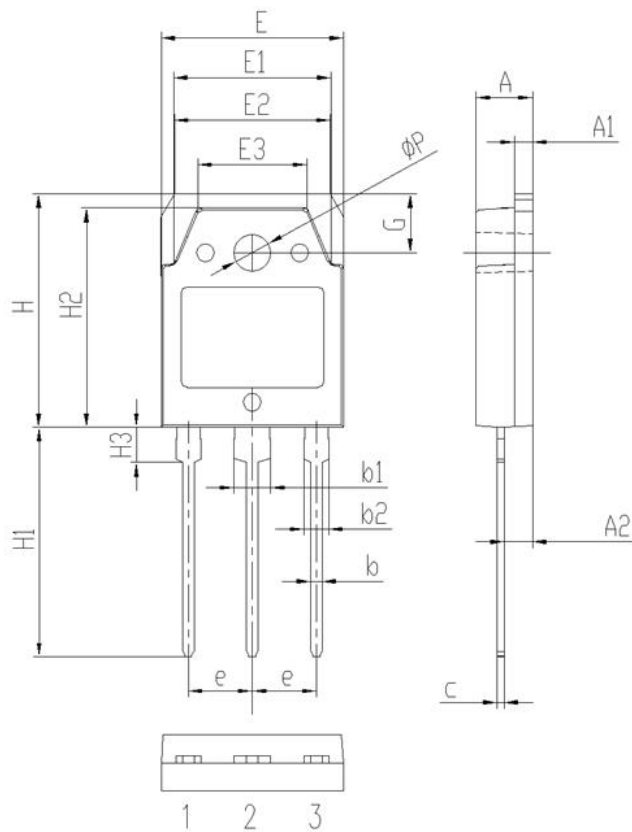
Fig. 6 Peak forward voltage versus di_F/dt .

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



■ Outline Dimensions

TO-3P



Symbol	Dimensions(millimeters)	
	Min.	Max.
A	4.60	5.00
A1	1.30	1.70
A2	2.20	2.60
b	0.80	1.20
b1	2.90	3.30
b2	1.90	2.30
c	0.40	0.80
e	5.25	5.65
E	15.3	15.7
E1	13.2	13.6
E2	13.1	13.5
E3	9.10	9.50
H	19.7	20.1
H1	19.1	20.1
H2	18.3	18.7
H3	2.80	3.20
G	4.80	5.20
ΦP	3.00	3.40

Packge	Packing	Box Size L×W×H(mm)	Quatity(pcs/box)	Carton Size L×W×H(mm)	Quatity(pcs/carton)
TO-3P	30pcs/Tube	570×155×50	450	580×340×125	1800