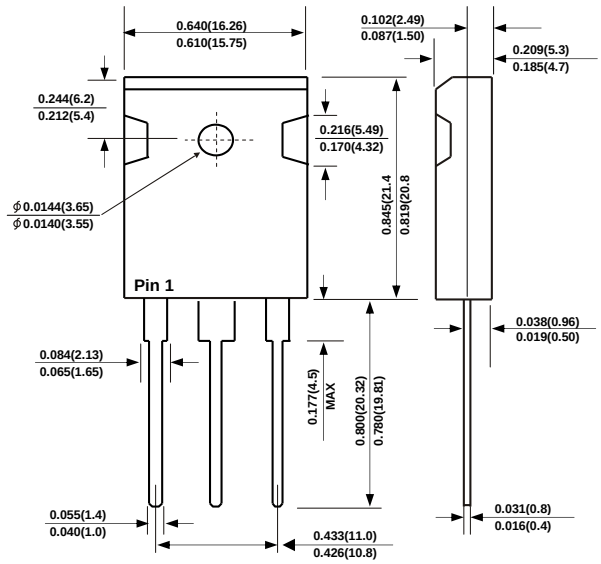
MUR6020PT THRU MUR6030PT

SUPER FAST RECOVERY RECTIFIER

Reverse Voltage - 200 and 300 Volts Forward Current - 30.0 Ampere

TO-247AD/TO-3P



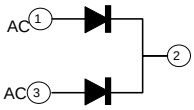
Dimensions in inches and (millimeters)

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0.
  Flame Retardant Epoxy Molding Compound.
- Low Leakage
- Ultra fast 35 Nanosecond Recovery Time
- Low Forward Voltage Drop
- Pb free product : 99% Sn above can meet RoHS
- environment substance directive request

MECHANICAL DATA

Case: TO-247AD/TO-3P, Molded plastic.
Terminals: Solderable per MIL-STD-750，Method 2026
Standard Packaging : Tube.
Approx. Weight: 6 Gram
Mounting Torque: 0.8~1.2Nm maximum



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specif ied.
Single phase half-wave 60Hz,resistive or inductive load,for capacitive load current derate by 20%.

PARAMETER	SYMBOLS	MUR6020PT	MUR6030PT	UNITS
Maximum Recurrenent Peak Reverse Voltage	V_{RRM}	200	400	Volts
Maximum Non-Repetitive Peak Reverse Voltage (halfwave, single phase, 60 Hz)	V_{RSM}	200	400	Volts
Maximum Average Forward Current at $T_{VJ}=T_{VJM}$ TC =115℃; rectangular, d=0.5 t_P<10us; rep. rating, pulse width limited by T_{VJM}	I_{FRMS} I_{FAVM} I_{FRM}	50 60 375		Amp
Peak forward surge current. half sine-wave superimposed on rated load per diode T_{VJ}=45℃ T=10ms(50Hz),sine Wave.	I_{FSM}	325		Amps
T_{VJ}=45℃ T=8.3ms(60Hz),sine Wave.		350		
T_{VJ}=150℃ T=10ms(50Hz),sine Wave.		290		
T_{VJ}=150℃ T=8.3ms(60Hz),sine Wave.		310		
Maximum limit of the energy parameters T_{VJ}=45℃ T=10ms(50Hz),sine Wave.	I^2t	530		A^2s
T_{VJ}=45℃ T=8.3ms(60Hz),sine Wave.		510		
T_{VJ}=150℃ T=10ms(50Hz),sine Wave.		420		
T_{VJ}=150℃ T=8.3ms(60Hz),sine Wave.		400		
Maximum Forward Voltage at 30A T_{VJ}=150℃	V_F	0.85		Volts
T_{VJ}=25℃		1.10		
Maximum DC Reverse Current Rated DC Blocking Voltage T_{VJ}=25℃, $V_R=V_{RRM}$	I_R	200		μA
at T_{VJ}=25℃, V_R=0.8-V_{RRM}		50		μA
T_{VJ}=125℃, V_R=0.8-V_{RRM}		5		mA
Maximum Reverse Recovery Time (NOTE 2)	t_{rr}	35(typ.) 50(max.)		ns
Typical Junction Capacitance (NOTE 1)	C_J	140		pF
Typical Thermal Resistance	$R_{\theta JC}$	1		K/W
Operating and Storage Temperature Range	T_{STG}	-40 ～ +150		℃

SYMBOLS	Test Condition	MUR6020PT	MUR6030PT	UNITS
T_{VJ} T_{VJM}		-40 ～ +150 150		℃
P_{tot}	TC=25℃	125		W
V_{TO}	For power-loss calculation only	0.72(max.)		V
rr	$T_{VJ}=T_{VJM}$	4.2(max.)		mΩ
I_{RM}	V_R=100V, I_F=30A, -d_{IF}/dt=100A/μs, L≤0.05μH, T_{VJ}=100℃	4(typ.) 5(max.)		A

Note: 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Reverse Recovery Test Conditions: I_F=1A, di/dt=100A/μs, V_R=30V, T_{VJ}=25℃
3. Infinite heatsink.

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RATINGS AND CHARACTERISTIC CURVES

FIG. 1- FORWARD CURRENT DERATING CURVE

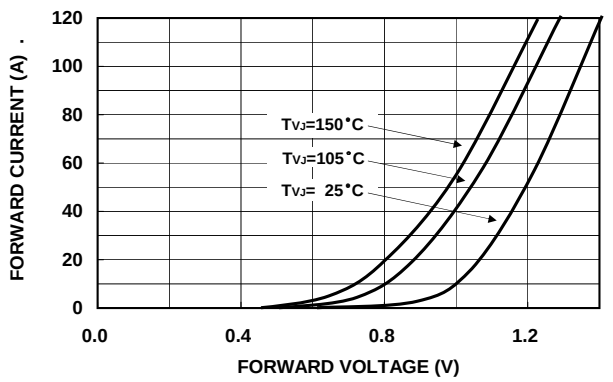

FIG. 2-TYPICAL REVERSE RECOVERY CHARGE

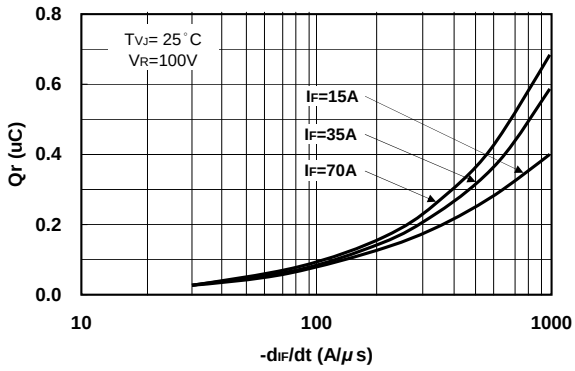

FIG. 3-TYP. PEAK REVERSE CHARACTERISTICS

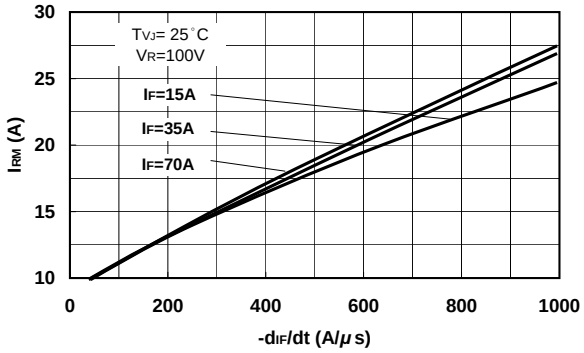

FIG. 4-DYNAMIC PARMETERS CHARACTERISTICS

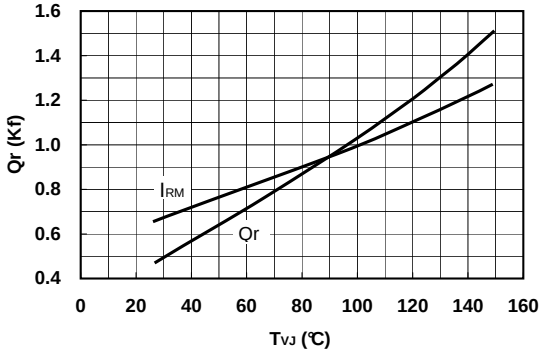

FIG. 5- TYP. RECOVRY TIME CHARACTERISTICS

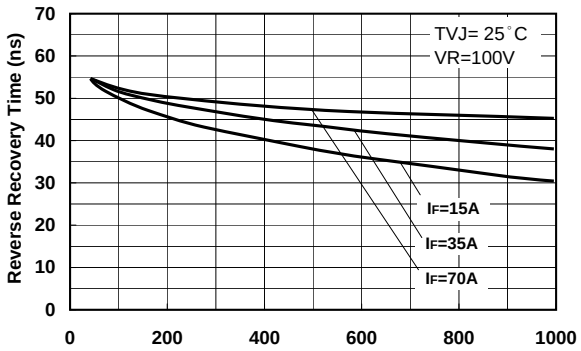

FIG. 6- TYP. PEAK FORWARD VOLTAGEV V_{FR} and t_{rr} versus du_F/dt

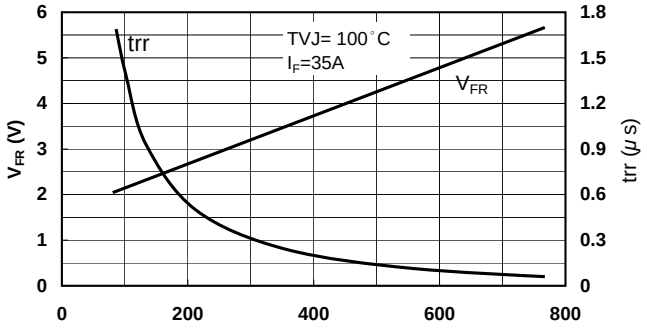

FIG.7 TRANSIENT THERMAL IMPEDANCE JUNCTION TO CASE