

MUR1610CT, MUR1615CT, MUR1620CT, MUR1640CT, MUR1660CT

MAXIMUM RATINGS

Rating	Symbol	MUR16					Unit
		10CT	15CT	20CT	40CT	60CT	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	100	150	200	400	600	V
Average Rectified Forward Current Total Device, (Rated V_R), $T_C = 150^\circ\text{C}$	$I_{F(AV)}$	8.0 16					A
Peak Rectified Forward Current (Rated V_R , Square Wave, 20 kHz), $T_C = 150^\circ\text{C}$	I_{FM}	16					A
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	100					A
Operating Junction Temperature and Storage Temperature	T_J, T_{stg}	- 65 to +175					$^\circ\text{C}$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

THERMAL CHARACTERISTICS (Per Diode Leg)

Parameter	Symbol	Value		Unit
Maximum Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	3.0	2.0	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS (Per Diode Leg)

Characteristic	Symbol	1620	1640	1660	Unit
Maximum Instantaneous Forward Voltage (Note 1) ($I_F = 8.0\text{ A}$, $T_C = 150^\circ\text{C}$) ($I_F = 8.0\text{ A}$, $T_C = 25^\circ\text{C}$)	V_F	0.895 0.975	1.00 1.30	1.20 1.50	V
Maximum Instantaneous Reverse Current (Note 1) (Rated DC Voltage, $T_C = 150^\circ\text{C}$) (Rated DC Voltage, $T_C = 25^\circ\text{C}$)	i_R	250 5.0	500 10		μA
Maximum Reverse Recovery Time ($I_F = 1.0\text{ A}$, $di/dt = 50\text{ A}/\mu\text{s}$) ($I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{REC} = 0.25\text{ A}$)	t_{rr}	35 25	60 50		ns

1. Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$

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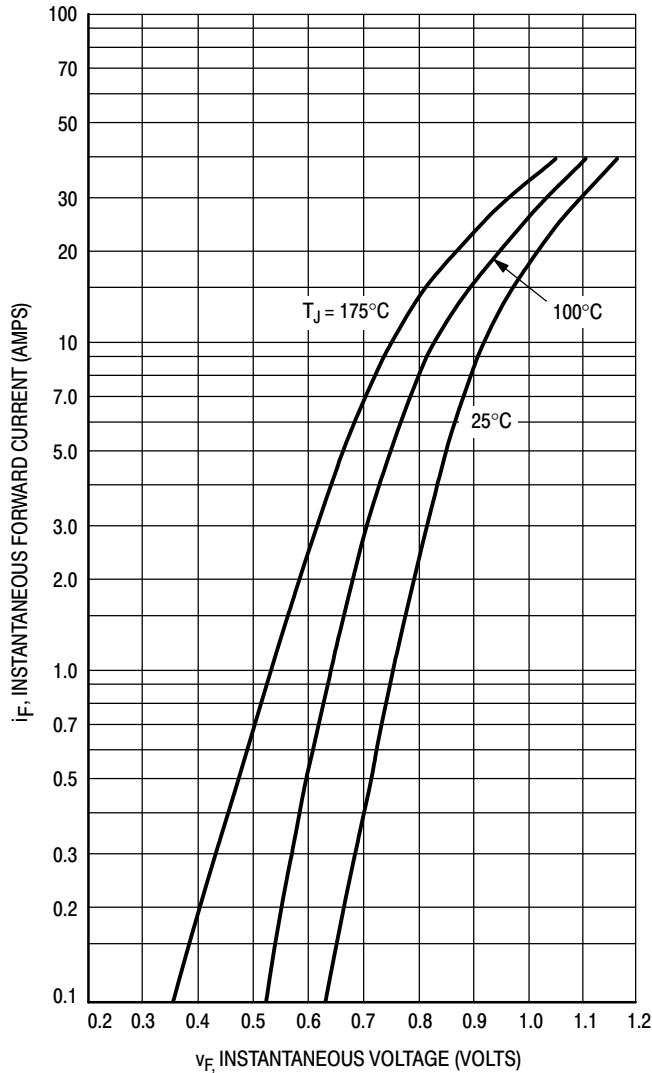


Figure 1. Typical Forward Voltage, Per Leg

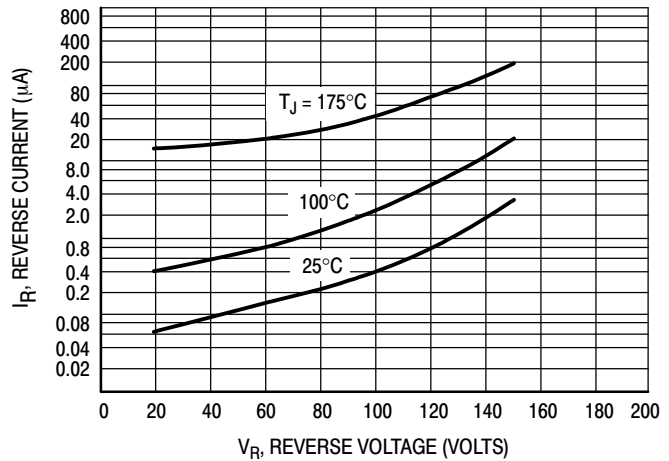


Figure 2. Typical Reverse Current, Per Leg*

* The curves shown are typical for the highest voltage device in the voltage grouping. Typical reverse current for lower voltage selections can be estimated from these same curves if V_R is sufficiently below rated V_R .

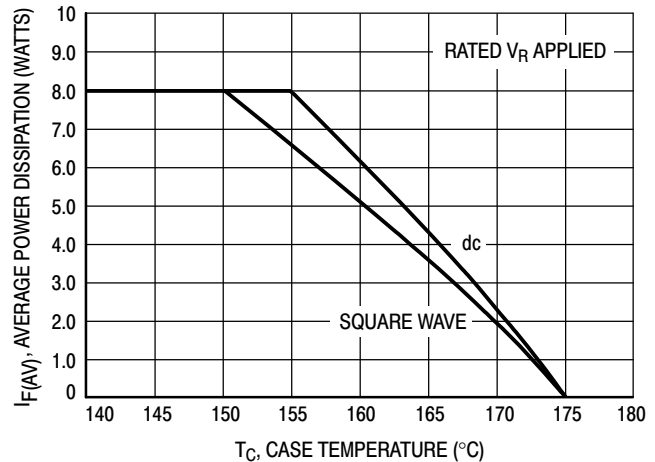


Figure 3. Current Derating, Case, Per Leg

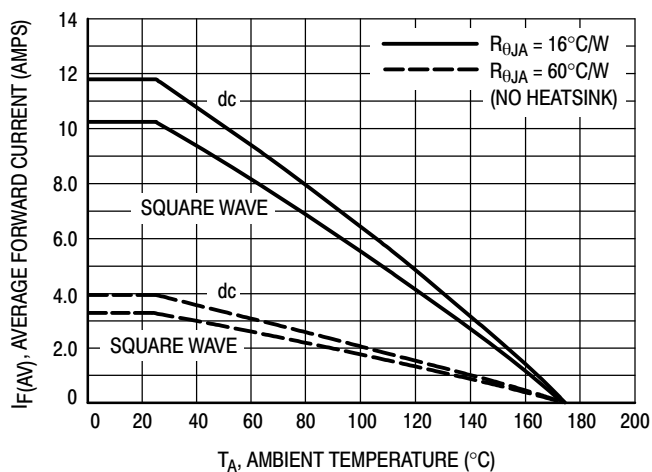


Figure 4. Current Derating, Ambient, Per Leg

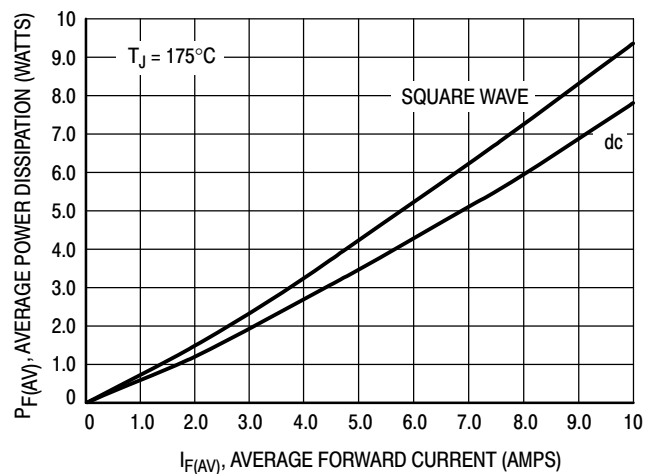


Figure 5. Power Dissipation, Per Leg

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MUR1640CT

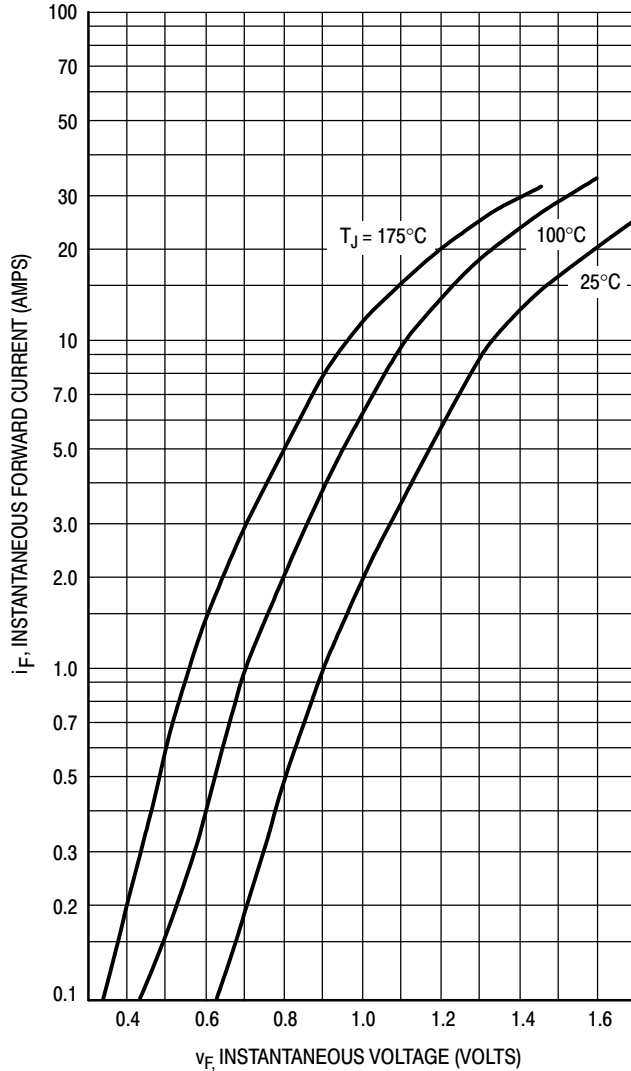


Figure 6. Typical Forward Voltage, Per Leg

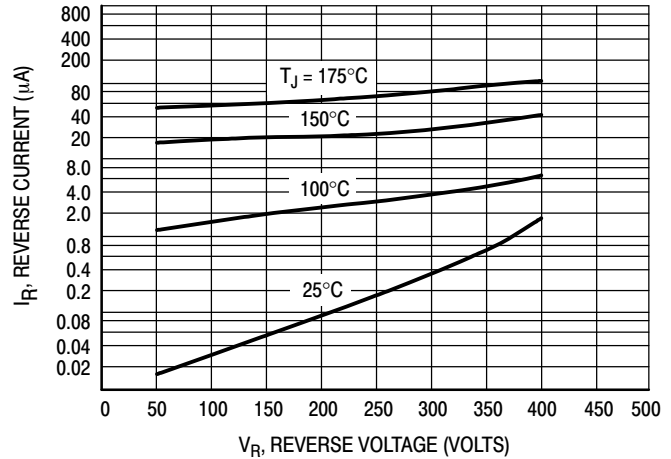


Figure 7. Typical Reverse Current, Per Leg*

* The curves shown are typical for the highest voltage device in the voltage grouping. Typical reverse current for lower voltage selections can be estimated from these curves if V_R is sufficiently below rated V_R .

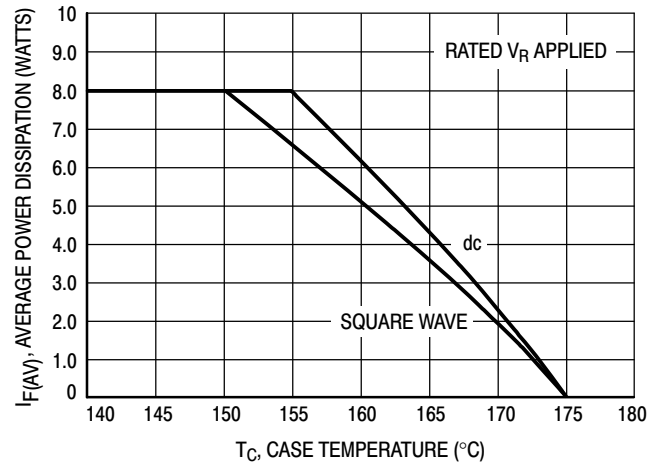


Figure 8. Current Derating, Case, Per Leg

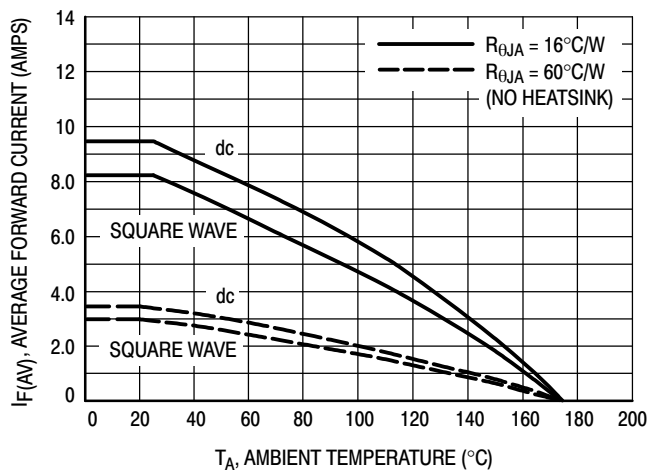


Figure 9. Current Derating, Ambient, Per Leg

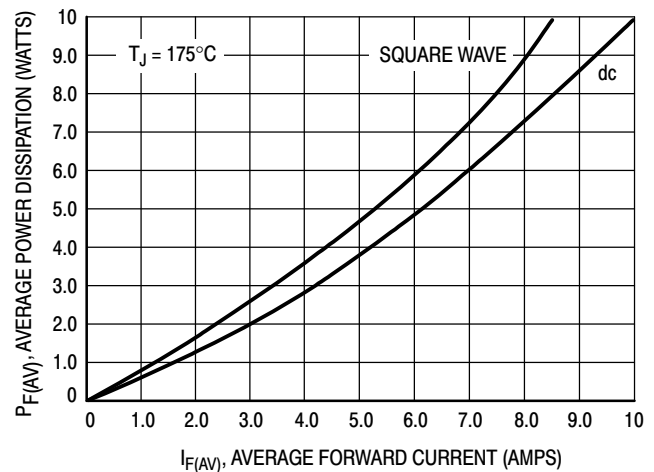


Figure 10. Power Dissipation, Per Leg

MUR1660CT

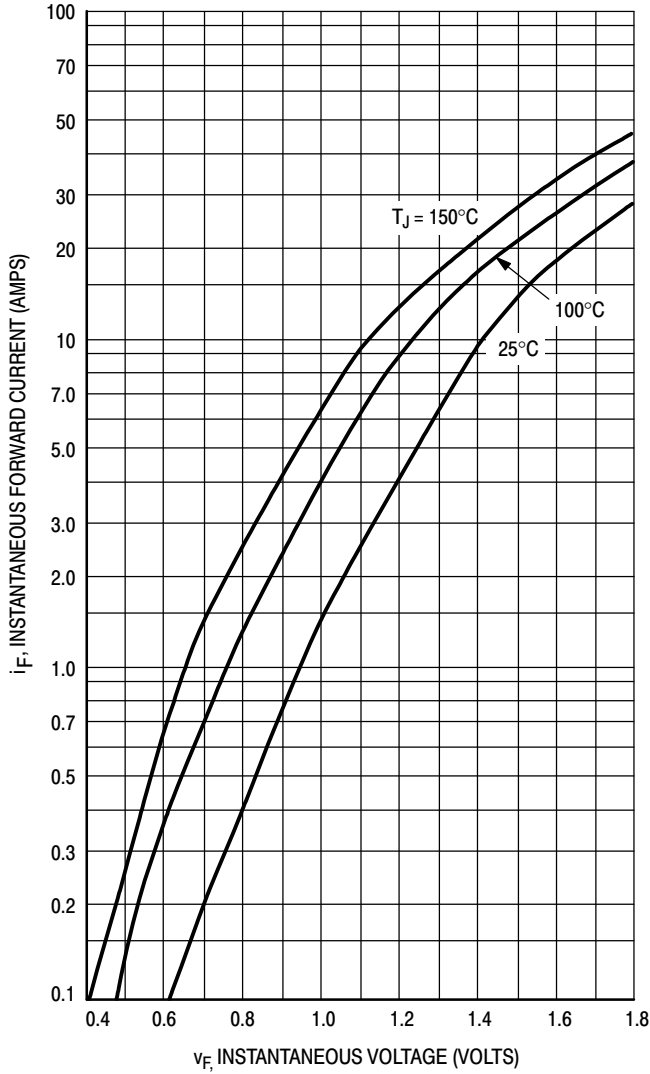


Figure 11. Typical Forward Voltage, Per Leg

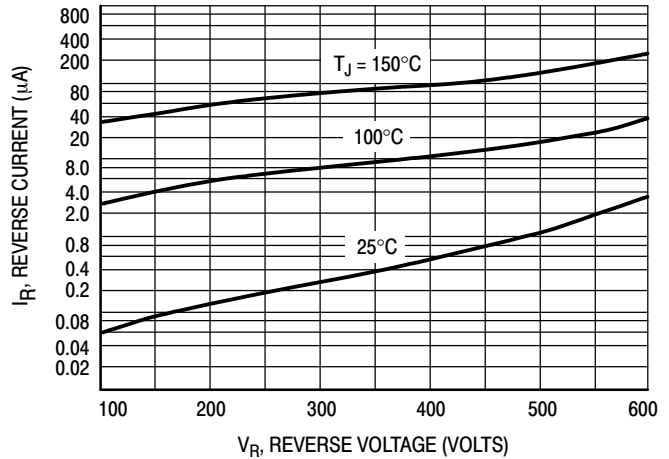


Figure 12. Typical Reverse Current, Per Leg*

* The curves shown are typical for the highest voltage device in the voltage grouping. Typical reverse current for lower voltage selections can be estimated from these same curves if V_R is sufficiently below rated V_R .

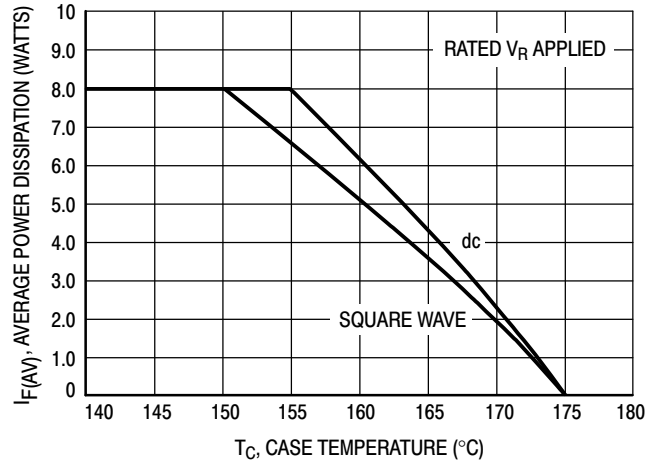


Figure 13. Current Derating, Case, Per Leg

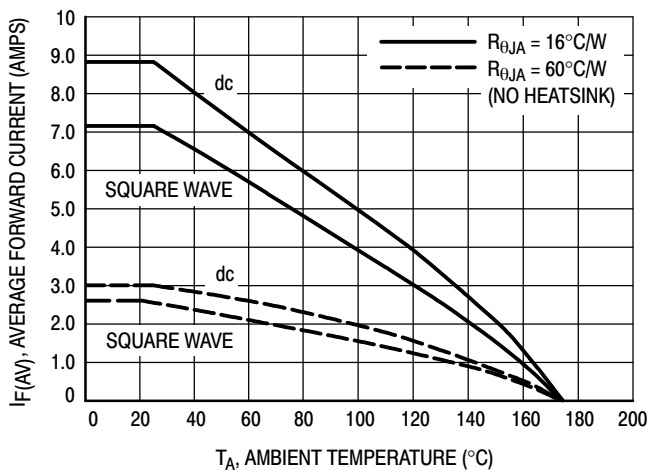


Figure 14. Current Derating, Ambient, Per Leg

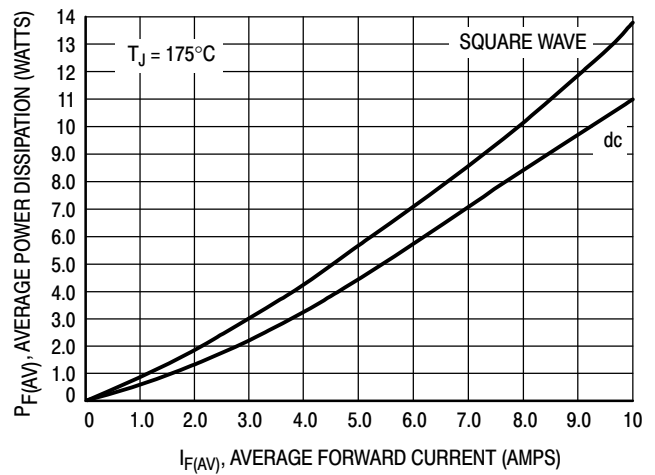


Figure 15. Power Dissipation, Per Leg

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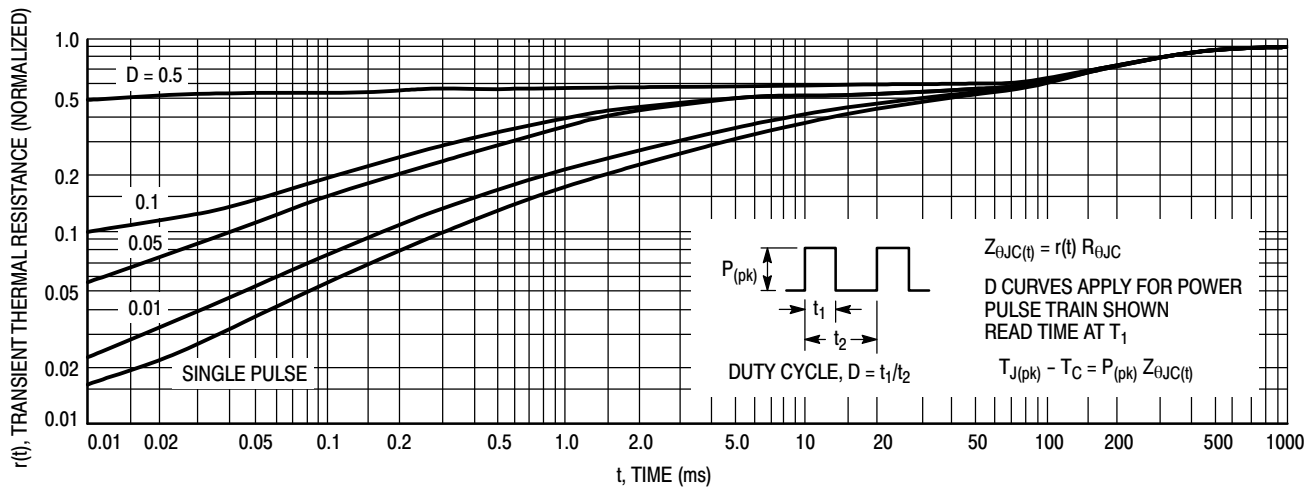


Figure 16. Thermal Response

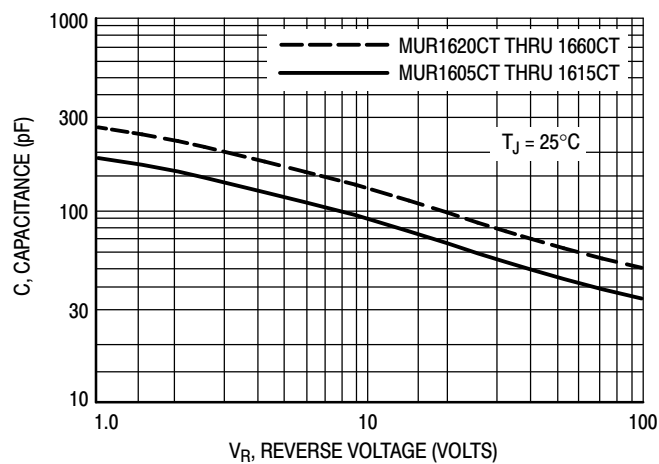


Figure 17. Typical Capacitance, Per Leg

ORDERING INFORMATION

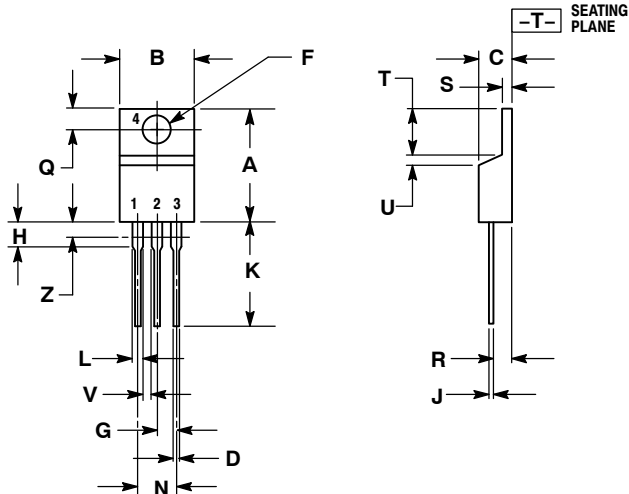
Device	Package	Shipping [†]
MUR1610CT	TO-220	50 Units / Rail
MUR1610CTG	TO-220 (Pb-Free)	
MUR1615CT	TO-220	
MUR1615CTG	TO-220 (Pb-Free)	
MUR1620CT	TO-220	
MUR1620CTG	TO-220 (Pb-Free)	
MUR1640CT	TO-220	
MUR1640CTG	TO-220 (Pb-Free)	
MUR1660CT	TO-220	
MUR1660CTG	TO-220 (Pb-Free)	

[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

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PACKAGE DIMENSIONS

TO-220 CASE 221A-09 ISSUE AF



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSION Z DEFINES A ZONE WHERE ALL BODY AND LEAD IRREGULARITIES ARE ALLOWED.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.570	0.620	14.48	15.75
B	0.380	0.405	9.66	10.28
C	0.160	0.190	4.07	4.82
D	0.025	0.035	0.64	0.88
F	0.142	0.161	3.61	4.09
G	0.095	0.105	2.42	2.66
H	0.110	0.155	2.80	3.93
J	0.014	0.025	0.36	0.64
K	0.500	0.562	12.70	14.27
L	0.045	0.060	1.15	1.52
N	0.190	0.210	4.83	5.33
Q	0.100	0.120	2.54	3.04
R	0.080	0.110	2.04	2.79
S	0.045	0.055	1.15	1.39
T	0.235	0.255	5.97	6.47
U	0.000	0.050	0.00	1.27
V	0.045	---	1.15	---
Z	---	0.080	---	2.04

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