MUR3015PT Datasheet

DiGi Electronics Part Number	MUR3015PT-DG
Manufacturer	Solid State Inc.
Manufacturer Product Number	MUR3015PT
Description	DIODE ARRAY GP 150V 15A TO218AC
Detailed Description	Diode Array 1 Pair Common Cathode 150 V 15A Through Hole TO-218-3, TO-218AC

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Manufacturer Product Number:	Manufacturer:
MUR3015PT	Solid State Inc.
Series:	Product Status:
-	Active
Diode Configuration:	Technology:
1 Pair Common Cathode	Standard
Voltage - DC Reverse (Vr) (Max):	Current - Average Rectified (Io) (per Diode):
150 V	15A
Voltage - Forward (Vf) (Max) @ If:	Speed:
1.05 V @ 15 A	Fast Recovery =< 500ns, > 200mA (Io)
Reverse Recovery Time (trr):	Current - Reverse Leakage @ Vr:
35 ns	10 µA @ 150 V
Operating Temperature - Junction:	Mounting Type:
-65°C ~ 175°C	Through Hole
Package / Case:	Supplier Device Package:
TO-218-3, TO-218AC	TO-218AC

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	1 (Unlimited)
REACH Status:	ECCN:
Vendor Undefined	EAR99
HTSUS:	
8541.10.0080	

SOLID STATE INC.
46 FARRAND STREET
BLOOMFIELD, NEW JERSEY 07003 www.solidstateinc.com

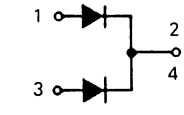
Switchmode Power Rectifiers

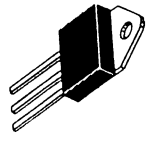
MUR3005PT thru MUR3060PT

. . . designed for use in switching power supplies, inverters and as free wheeling diodes, these state-of-the-art devices have the following features:

- Ultrafast 35 and 60 Nanosecond Recovery Time
- 175°C Operating Junction Temperature
- Popular TO-218 Package
- High Voltage Capability to 600 Volts
- Low Forward Drop
- Low Leakage Specified @ 150°C Case Temperature
- Current Derating Specified @ Both Case and Ambient Temperatures
- Epoxy Meets UL94, V_O @ 1/8"
- High Temperature Glass Passivated Junction

ULTRAFAST RECTIFIERS
30 AMPERES
50–600 VOLTS





TO-218AC
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MAXIMUM RATINGS

Rating	Symbol	MUR 3005PT	3010PT	3015PT	3020PT	3030PT	3040PT	3050PT	3060PT	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	150	200	300	400	500	600	Volts
Average Rectified Forward Current (Rated V_R) Per Leg Per Device	$I_{F(AV)}$	15 30	T_C = 150°C					15 30	T_C = 145°C	Amps
Peak Repetitive Forward Current, Per Leg (Rated V_R, Square Wave, 20 kHz), T_C = 150°C	I_{FRM}	30 @ T_C = 150°C						30 @ T_C = 145°C		Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz) Per Leg	I_{FSM}	200				150				Amps
Operating Junction Temperature and Storage Temperature	T_J, T_{stg}	−65 to +175								°C

THERMAL CHARACTERISTICS PER DIODE LEG

Maximum Thermal Resistance, Junction to Case Junction to Ambient	$R_{\theta JC}$ $R_{\theta JA}$	1.5 40	°C/W °C/W

ELECTRICAL CHARACTERISTICS PER DIODE LEG

Maximum Instantaneous Forward Voltage (1) (i_F = 15 Amps, T_C = 150°C) (i_F = 15 Amps, T_C = 25°C)	v_F	0.85 1.05		1.12 1.25	1.2 1.5	Volts
Maximum Instantaneous Reverse Current (1) (Rated dc Voltage, T_C = 150°C) (Rated dc Voltage, T_C = 25°C)	i_R	500 10			1000 10	μA
Maximum Reverse Recovery Time (I_F = 1 Amp, di/dt = 50 Amps/μs)	t_{rr}	35		60		ns

(1) Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2%.

MUR3005PT thru MUR3060PT

MUR3005PT, 3010PT, and 3015PT

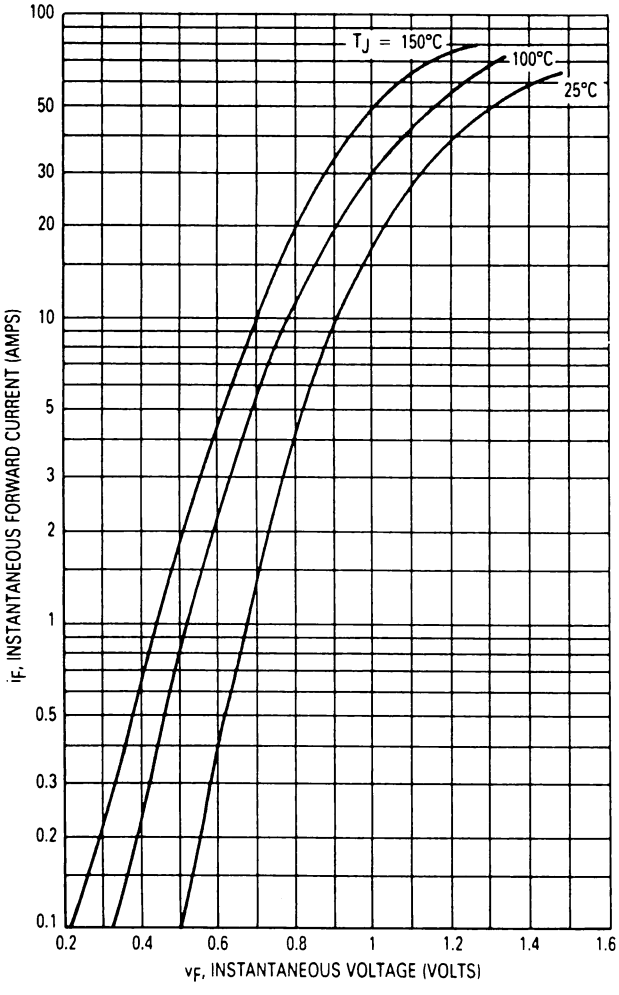
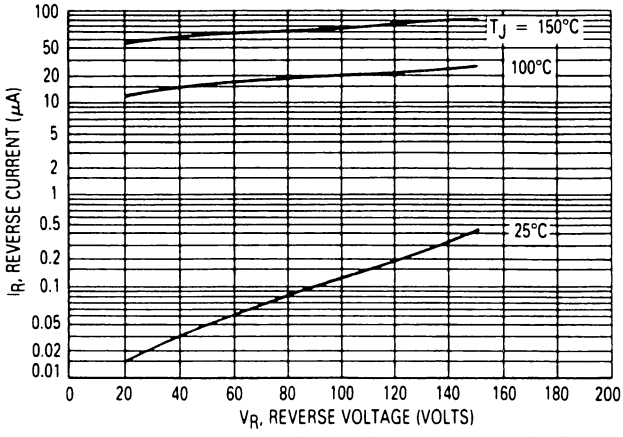


Figure 1. Typical Forward Voltage (Per Leg)



*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 2. Typical Reverse Current (Per Leg)*

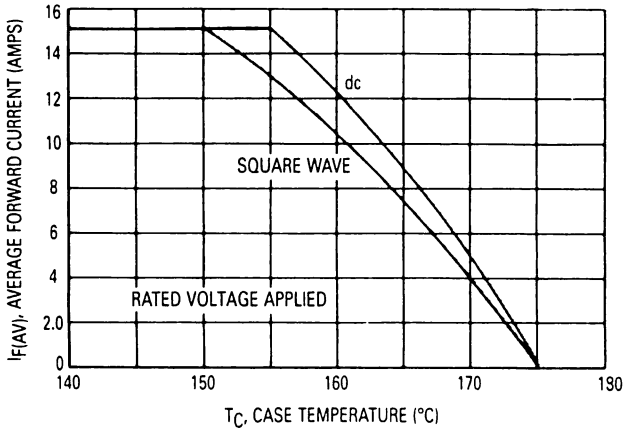


Figure 3. Current Derating, Case (Per Leg)

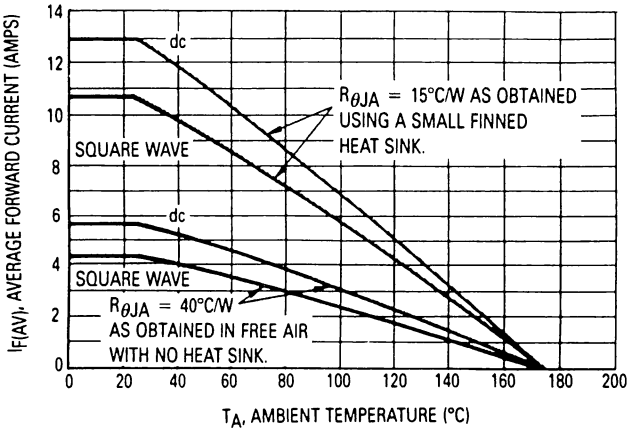


Figure 4. Current Derating, Ambient (Per Leg)

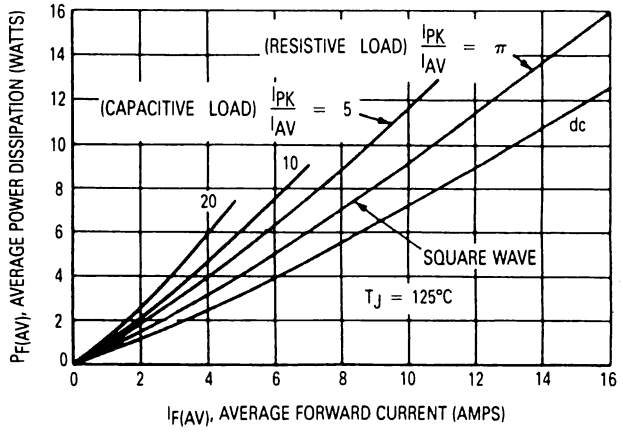


Figure 5. Power Dissipation (Per Leg)

MUR3005PT thru MUR3060PT

MUR3020PT,3030PT, and 3040PT

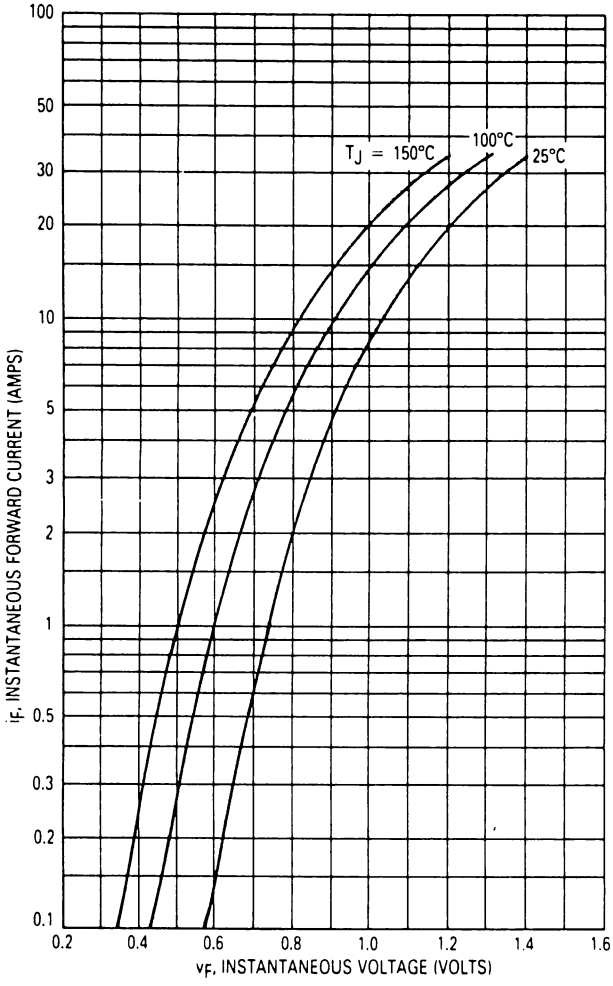
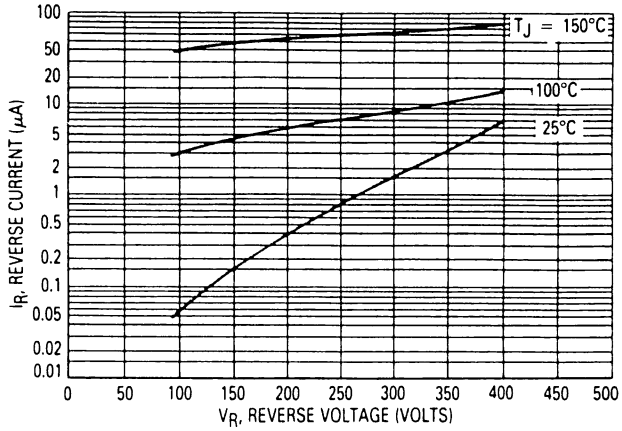


Figure 6. Typical Forward Voltage (Per Leg)



*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 7. Typical Reverse Current (Per Leg)*

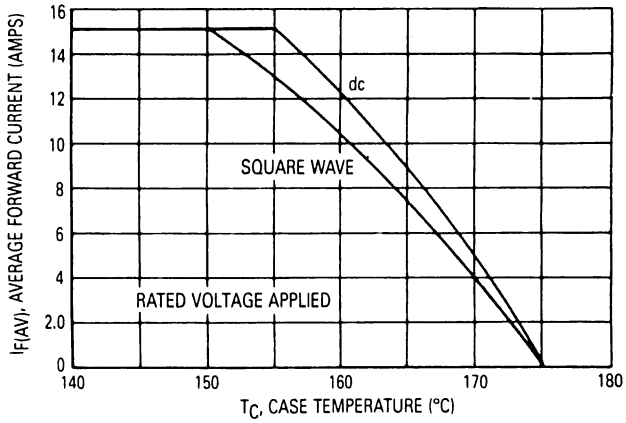


Figure 8. Current Derating, Case (Per Leg)

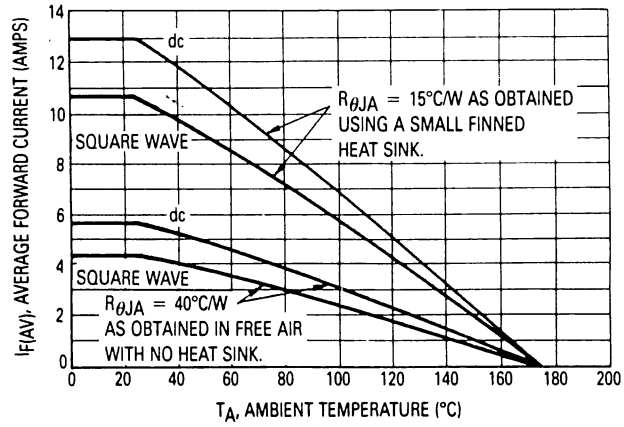


Figure 9. Current Derating, Ambient (Per Leg)

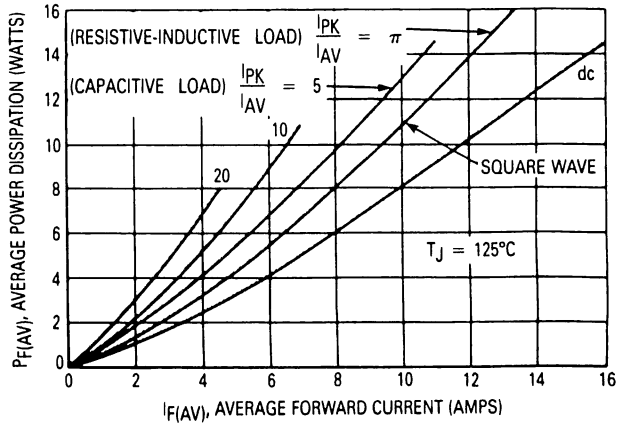


Figure 10. Power Dissipation (Per Leg)

MUR3005PT thru MUR3060PT

MUR3050PT and MUR3060PT

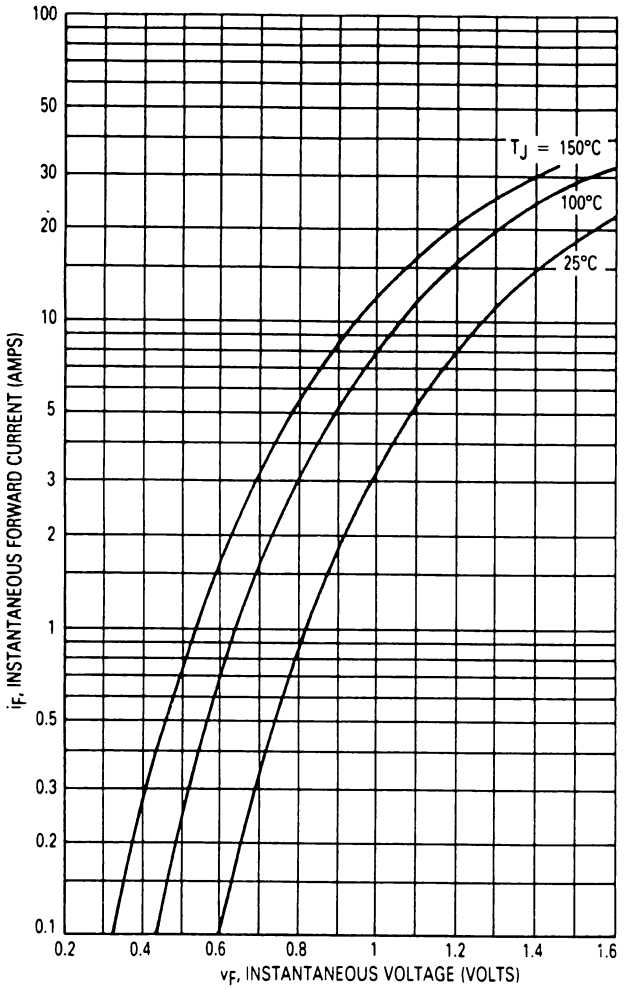
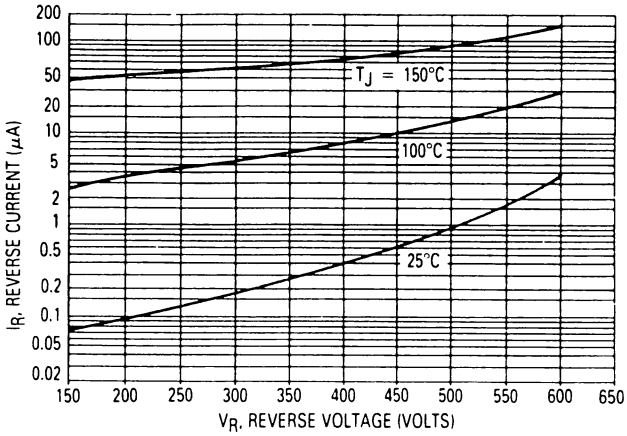


Figure 11. Typical Forward Voltage



*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 12. Typical Reverse Current*

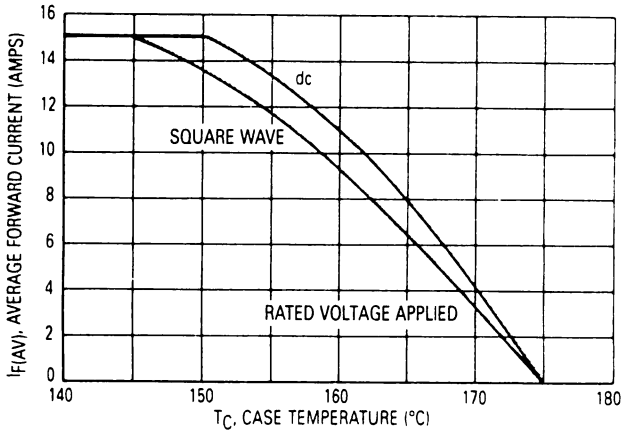


Figure 13. Current Derating, Case

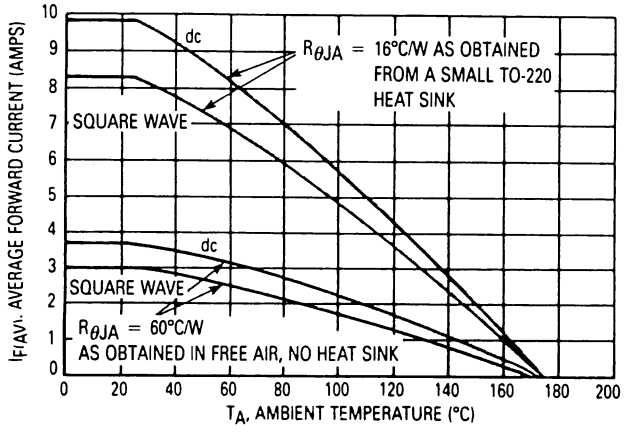


Figure 14. Current Derating, Ambient

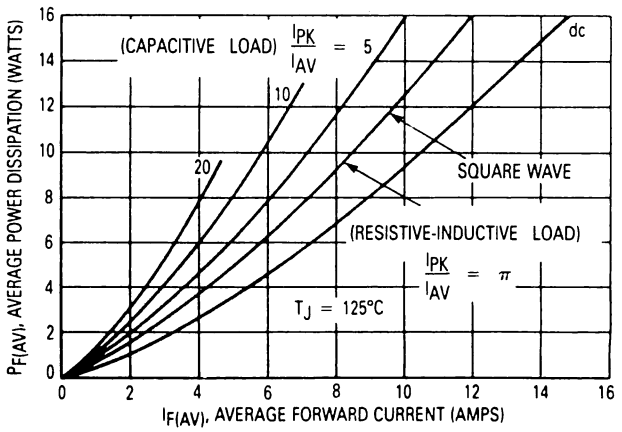


Figure 15. Power Dissipation

MUR3005PT thru MUR3060PT

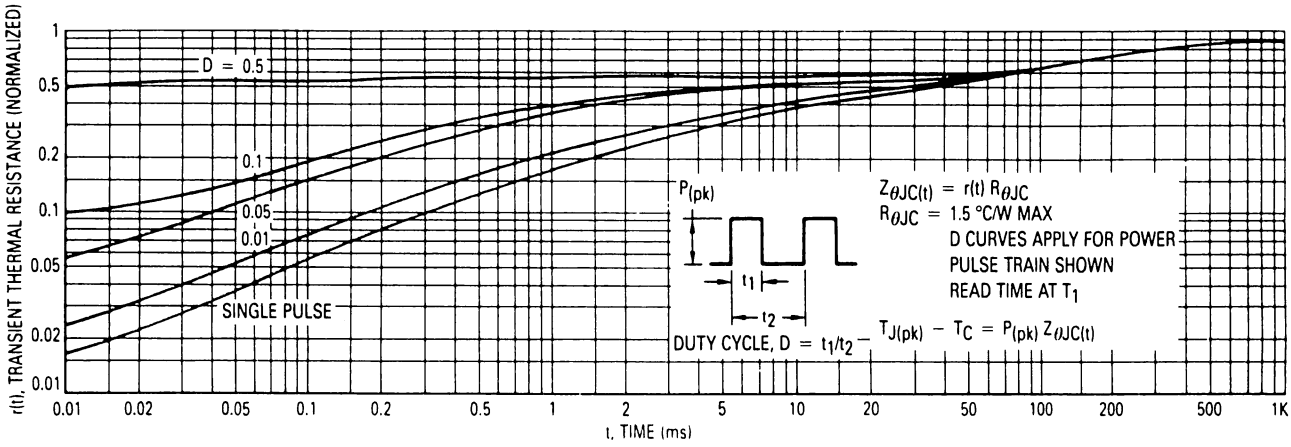


Figure 16. Thermal Response

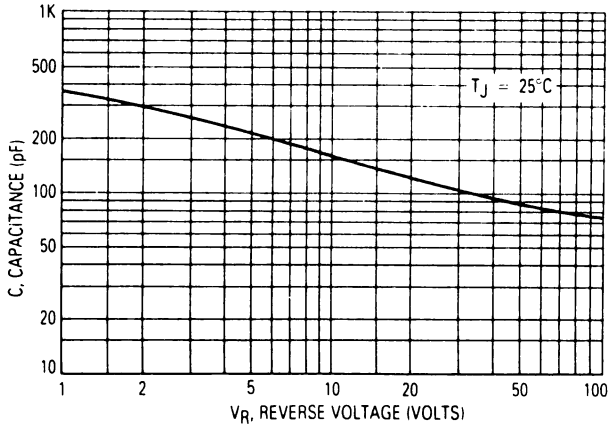
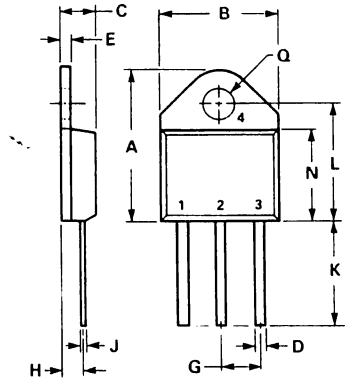


Figure 17. Typical Capacitance (Per Leg)

OUTLINE DIMENSIONS



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NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
A	20.32	21.08	0.800	0.830
B	15.49	15.90	0.610	0.626
C	4.19	5.08	0.165	0.200
D	1.02	1.65	0.040	0.065
E	1.35	1.65	0.053	0.065
G	5.21	5.72	0.205	0.225
H	2.65	2.94	0.104	0.116
J	0.38	0.64	0.015	0.025
K	12.70	15.49	0.500	0.610
L	15.88	16.51	0.625	0.650
N	12.19	12.70	0.480	0.500
Q	4.04	4.22	0.159	0.166

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