

MOTOROLA SEMICONDUCTOR TECHNICAL DATA

**MUR10005CT
MUR10010CT
MUR10015CT
MUR10020CT**

MUR10020CT is a
Motorola Preferred Device

Advance Information

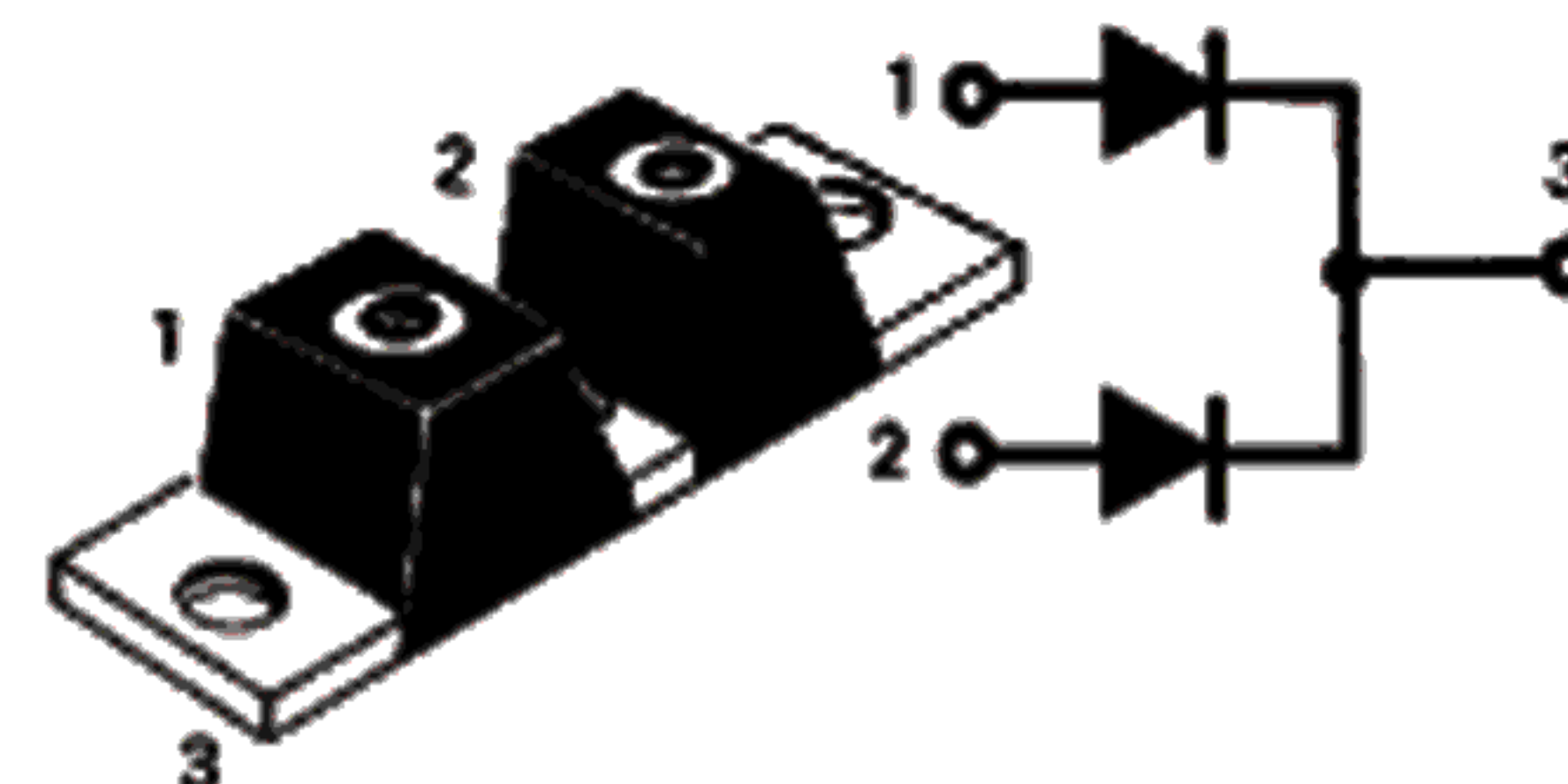
ULTRAFAST SWITCHMODE POWER RECTIFIERS

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

- Dual Diode Construction
- Low Leakage Current
- Low Forward Voltage
- 175°C Operating Junction Temperature
- Labor Saving POWERTAP Package

ULTRAFAST RECTIFIERS

**100 AMPERES
50 TO 200 VOLTS**



CASE 357C-03

MAXIMUM RATINGS

Rating	Symbol	MUR				Unit
		10005CT	10010CT	10015CT	10020CT	
Peak Repetitive Reverse Voltage	V_{RRM}	50	100	150	200	Volts
Working Peak Reverse Voltage	V_{RWM}					
DC Blocking Voltage	V_R					
Average Rectified Forward Current, (Rated V_R), $T_C = 140^\circ\text{C}$ Per Device Per Leg	$I_{F(AV)}$			100 50		Amps
Peak Repetitive Forward Current, Per Leg, (Rated V_R , Square Wave, 20 kHz), $T_C = 140^\circ\text{C}$	I_{FRM}		100			Amps
Nonrepetitive Peak Surge Current Per Leg (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}		400			Amps
Operating Junction and Storage Temperature	T_J, T_{stg}	-65 to +175				$^\circ\text{C}$

THERMAL CHARACTERISTICS PER LEG

Rating	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.0	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS PER LEG

Instantaneous Forward Voltage (1) ($I_F = 50$ Amp, $T_C = 25^\circ\text{C}$)	V_F	1.10	Volts
Instantaneous Reverse Current (1) (Rated dc Voltage, $T_C = 125^\circ\text{C}$) (Rated dc Voltage, $T_C = 25^\circ\text{C}$)	I_R	250 25	μA
Maximum Reverse Recovery Time ($I_F = 1.0$ Amps, $dI/dt = 50$ Amps/ μs)	t_{rr}	50	ns

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

This document contains information on a new product. Specifications and information herein are subject to change without notice.

MUR10005CT, MUR10010CT, MUR10015CT, MUR10020CT

FIGURE 1 — FORWARD VOLTAGE

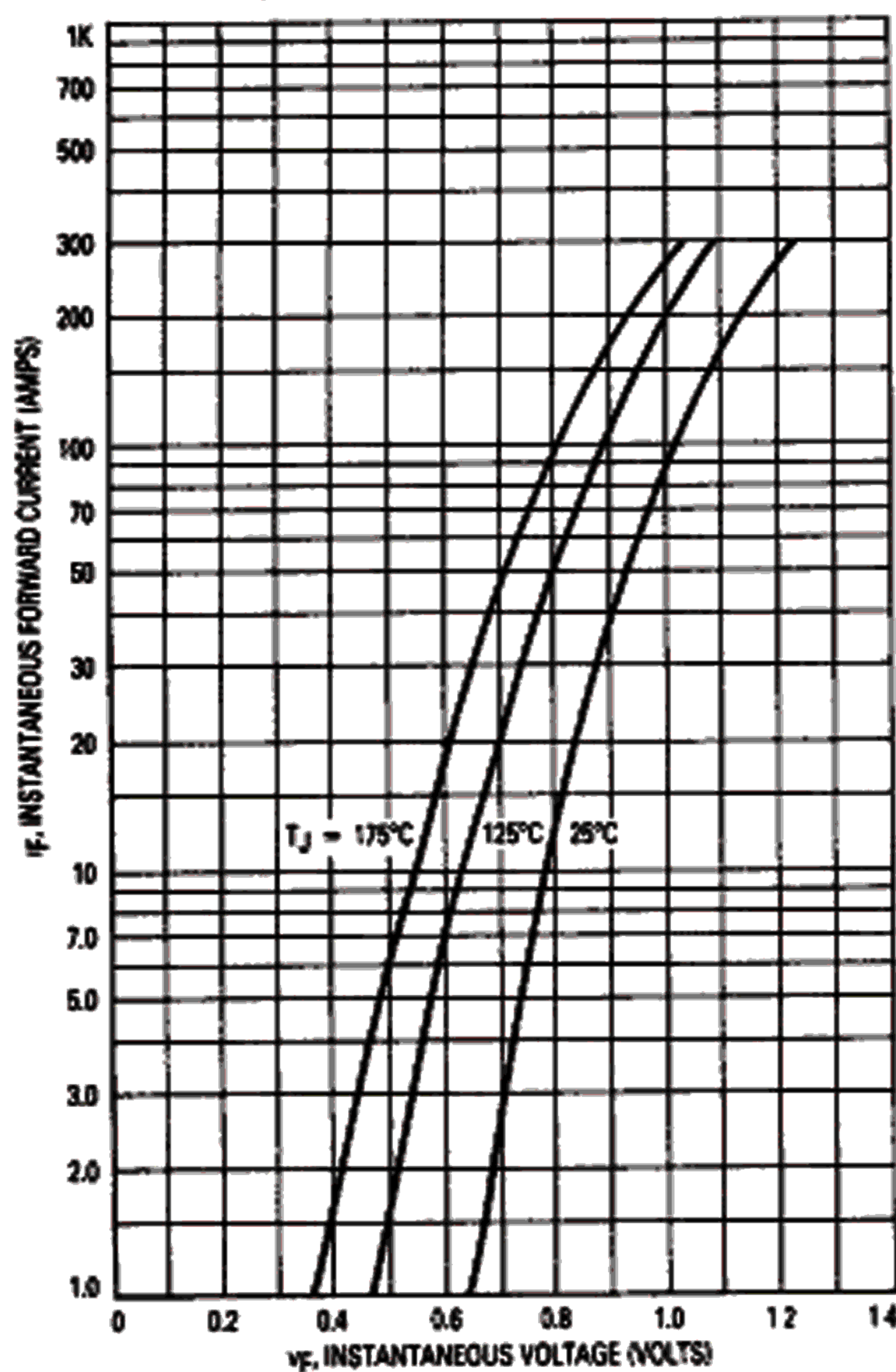
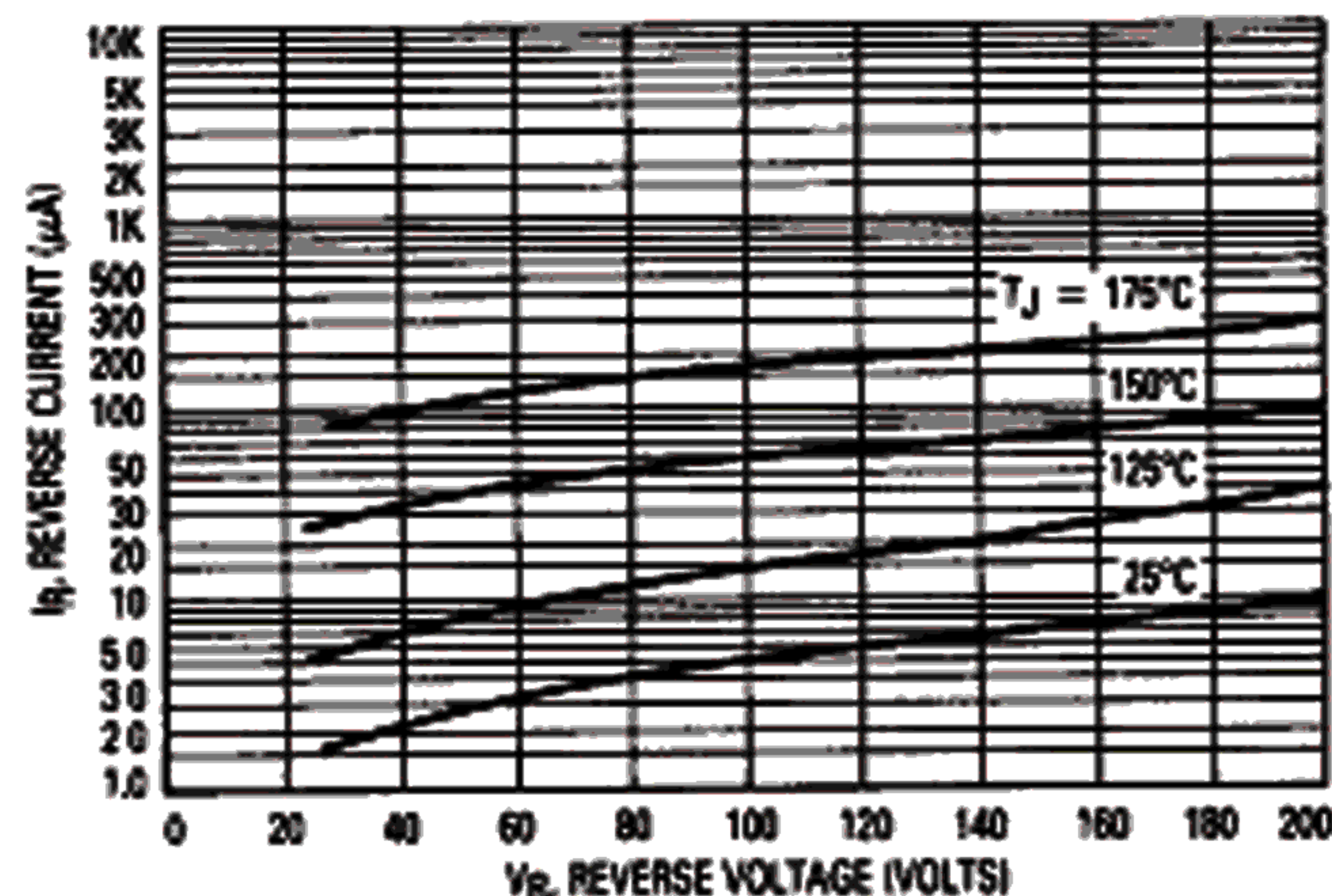


FIGURE 2 — TYPICAL REVERSE CURRENT*



*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 (PER LEG)

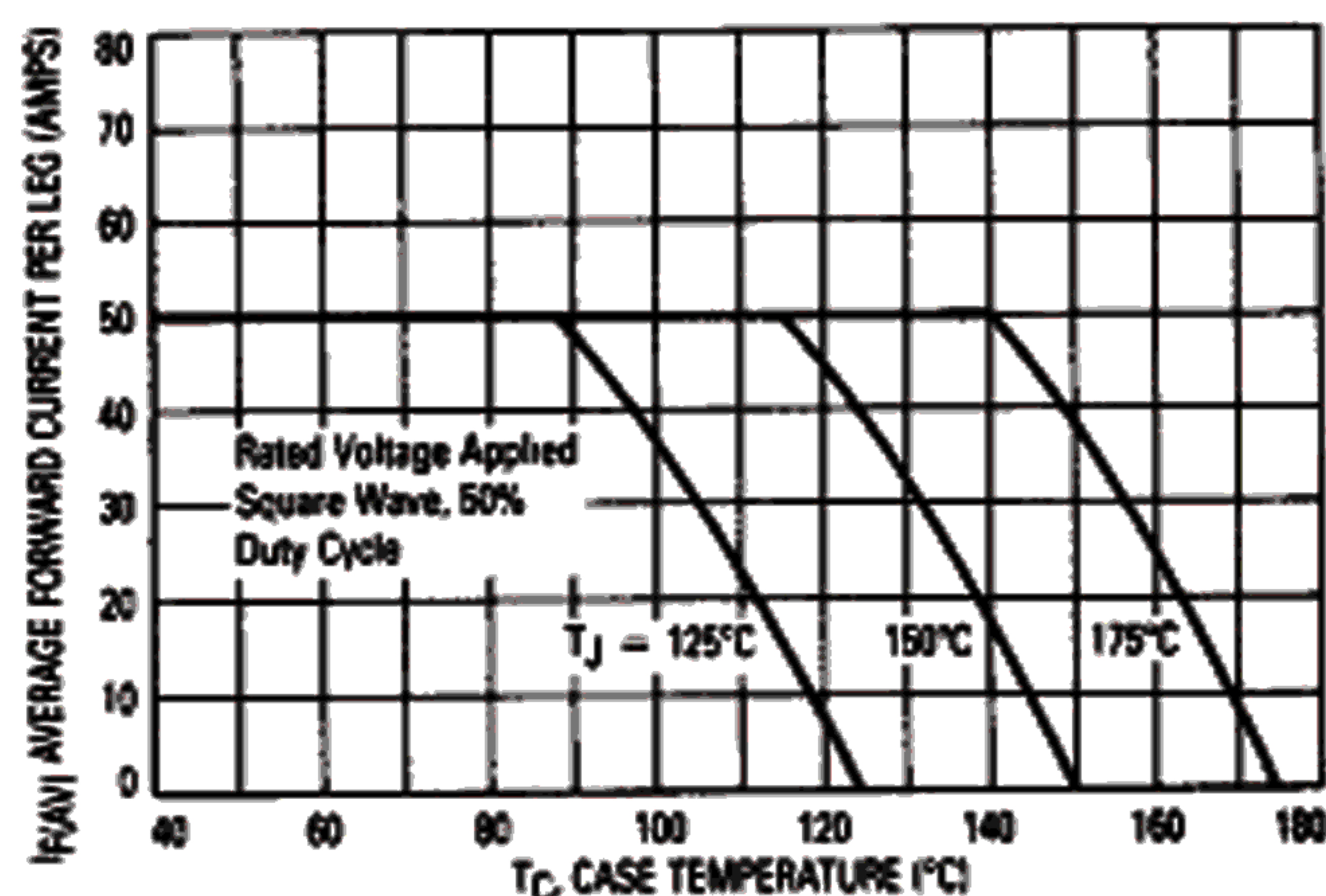


FIGURE 4 — POWER DISSIPATION (PER LEG)

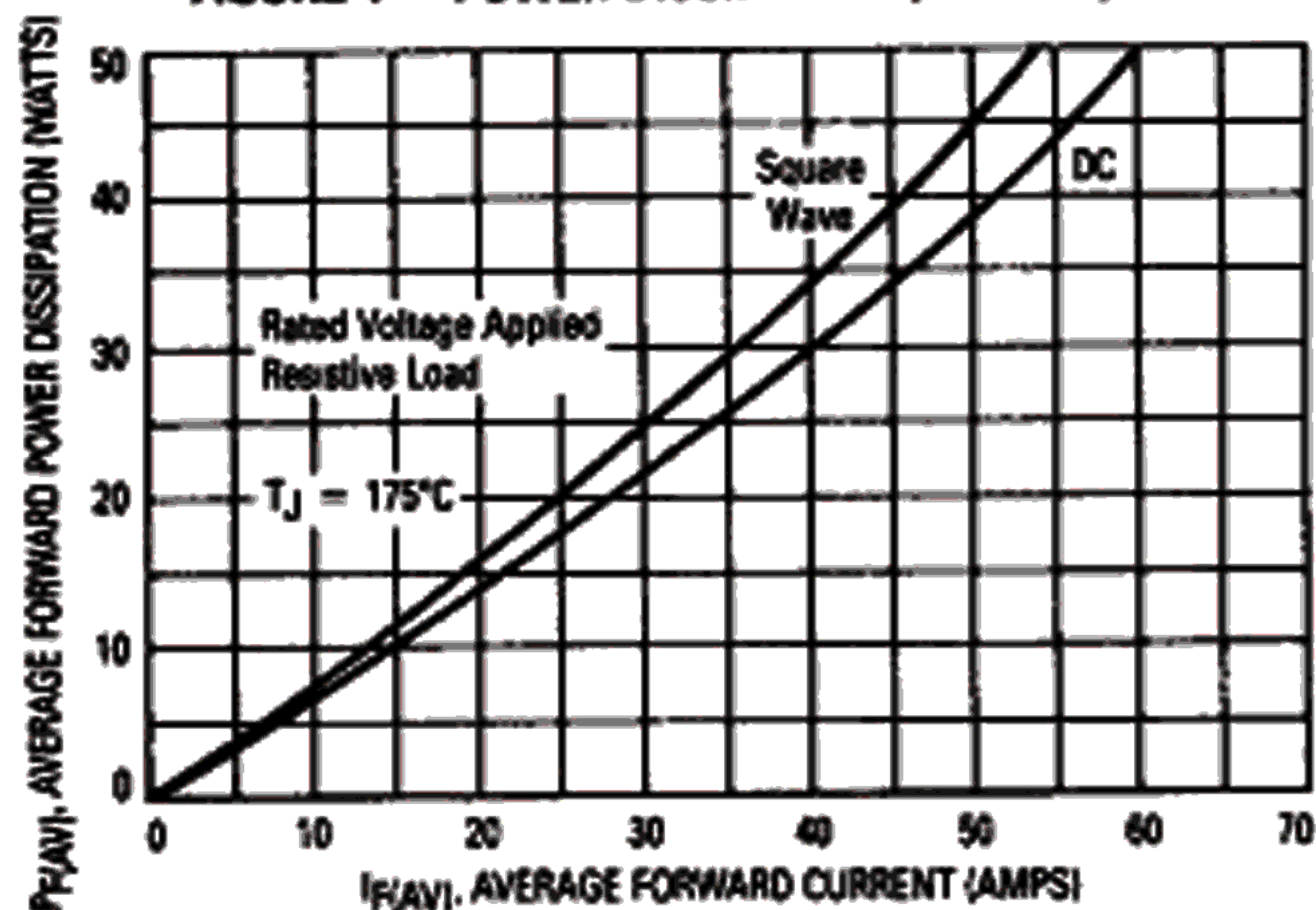


FIGURE 5 — CAPACITANCE (PER LEG)

