

OM SENI

MURS320BT3G, MURS340BT3G, MURS360BT3G

Surface Mount Ultrafast Power Rectifiers

Ideally suited for high voltage, high frequency rectification, or as free wheeling and protection diodes in surface mount applications where compact size and weight are critical to the system.

Features

- Small Compact Surface Mountable Package with J-Bend Leads
- Rectangular Package for Automated Handling
- High Temperature Glass Passivated Junction
- These Devices are Pb-Free and are RoHS Compliant

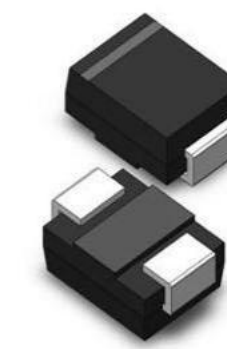
Mechanical Characteristics

- Case: Epoxy, Molded
- Weight: 95 mg (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Polarity: Polarity Band Indicates Cathode Lead
- ESD Rating:
 - ♦ Human Body Model (HBM) 3B (> 8 kV)
 - ♦ Machine Model (MM) C (> 400 V)

MAXIMUM RATINGS

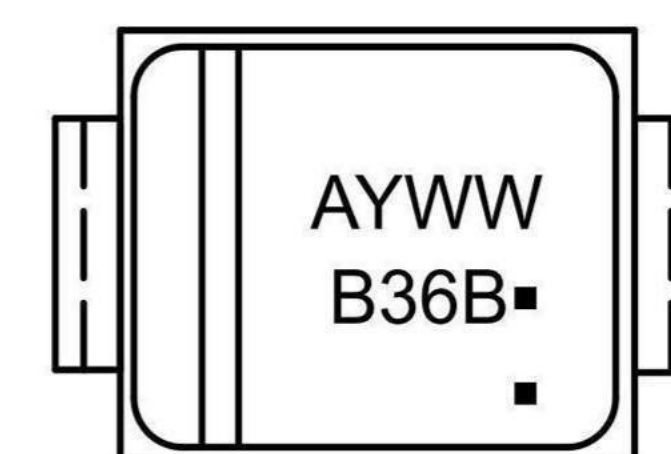
Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	600	V
Average Rectified Forward Current	$I_{F(AV)}$	3.0 @ $T_L = 105^\circ\text{C}$	A
Non-Repetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	100	A
Operating Junction Temperature	T_J	-65 to +175	°C

ULTRAFAST RECTIFIERS 3 AMPERES 200–600 VOLTS



**SMB
CASE 403A**

MARKING DIAGRAM



B36B	= Specific Device Code
A	= Assembly Location
Y	= Year
WW	= Work Week
■	= Pb-Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
MURS320BT3G	SMB (Pb-Free)	2,500 / Tape & Reel
MURS340BT3G	SMB (Pb-Free)	2,500 / Tape & Reel
MURS360BT3G	SMB (Pb-Free)	2,500 / Tape & Reel

†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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THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Thermal Resistance, Junction-to-Lead (Note 1)	$R_{\theta JL}$	14	$^{\circ}\text{C/W}$
Thermal Resistance, Junction-to-Ambient (Note 1)	$R_{\theta JA}$	125	$^{\circ}\text{C/W}$

1. Mounted with minimum recommended pad size, PC Board FR4.

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Typ	Max	Unit
Maximum Instantaneous Forward Voltage (Note 2) ($i_F = 3.0\text{ A}$, $T_J = 25^{\circ}\text{C}$) ($i_F = 3.0\text{ A}$, $T_J = 150^{\circ}\text{C}$)	V_F	– 0.83	1.25 1.05	V
Maximum Instantaneous Reverse Current (Note 2) (Rated DC Voltage, $T_J = 25^{\circ}\text{C}$) (Rated DC Voltage, $T_J = 150^{\circ}\text{C}$)	i_R	– 95	3.0 150	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_R to 0.25 A)	t_{rr}	– –	75 50	ns
Maximum Forward Recovery Time ($i_F = 1.0\text{ A}$, $di/dt = 100\text{ A}/\mu\text{s}$, Rec. to 1.0 V)	t_{fr}	–	50	ns

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

2. Pulse Test: Pulse Width = $300\text{ }\mu\text{s}$, Duty Cycle $\leq 2.0\%$.

TYPICAL CHARACTERISTICS

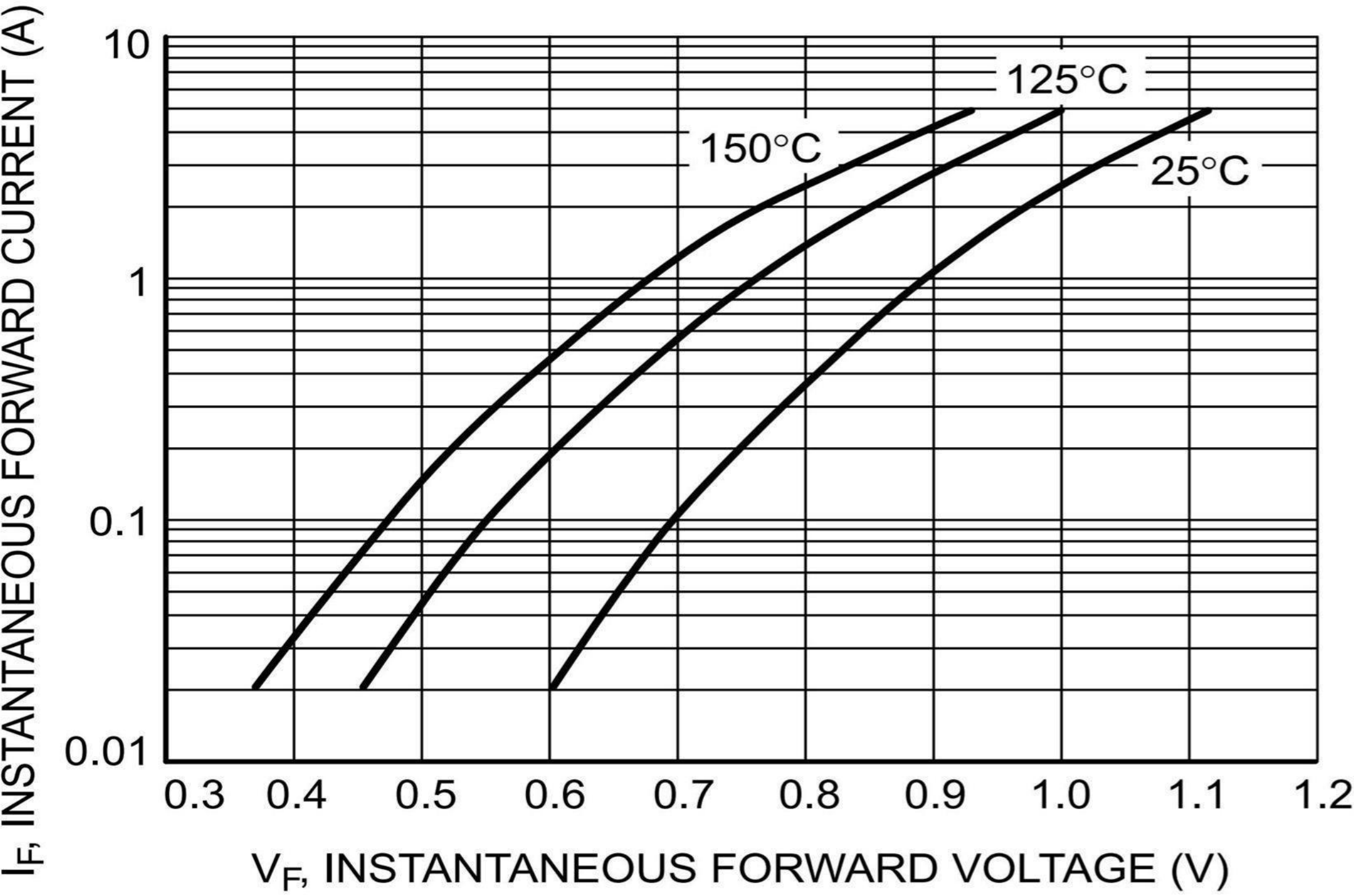


Figure 1. Typical Forward Voltage

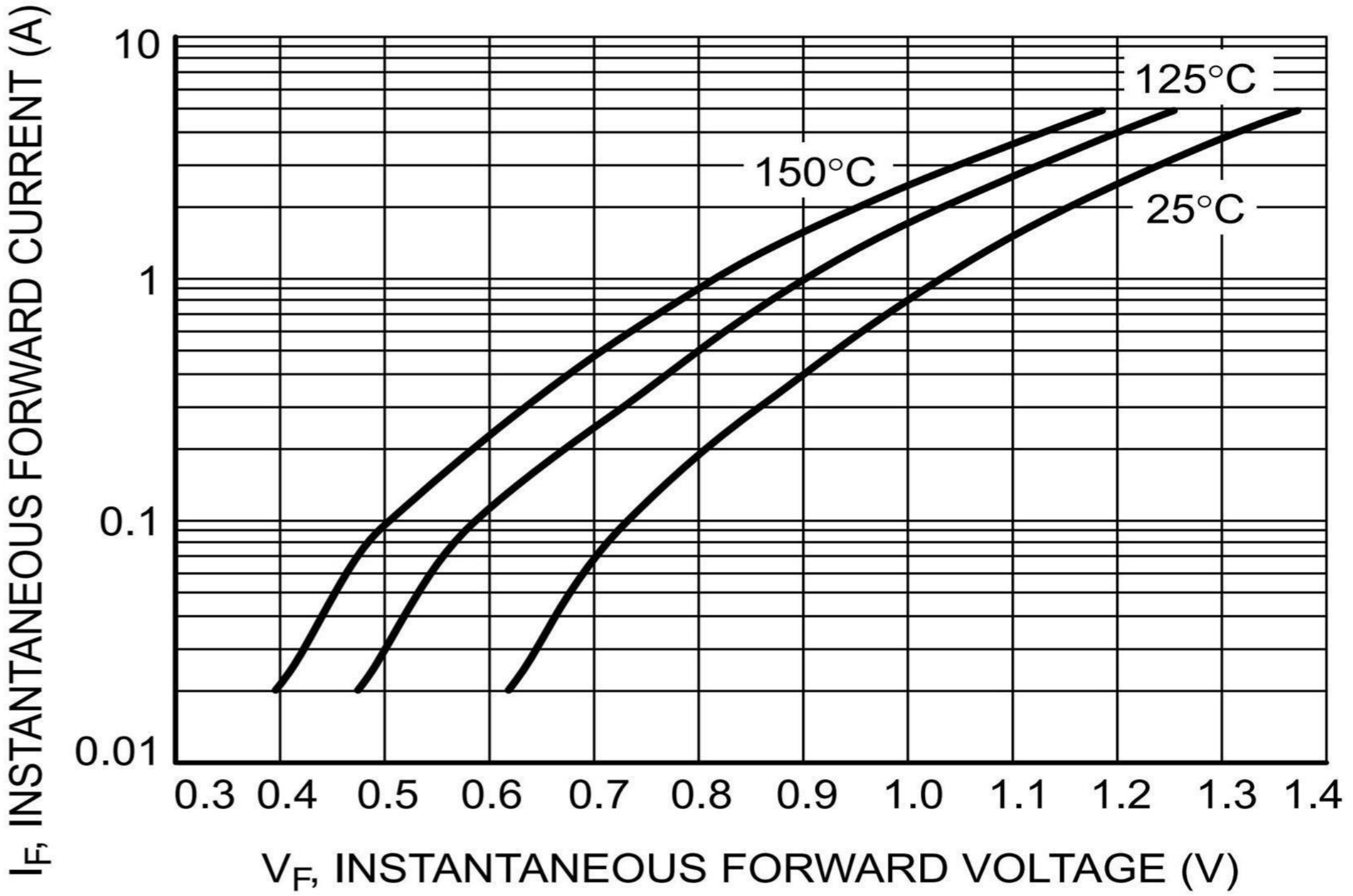


Figure 2. Maximum Forward Voltage

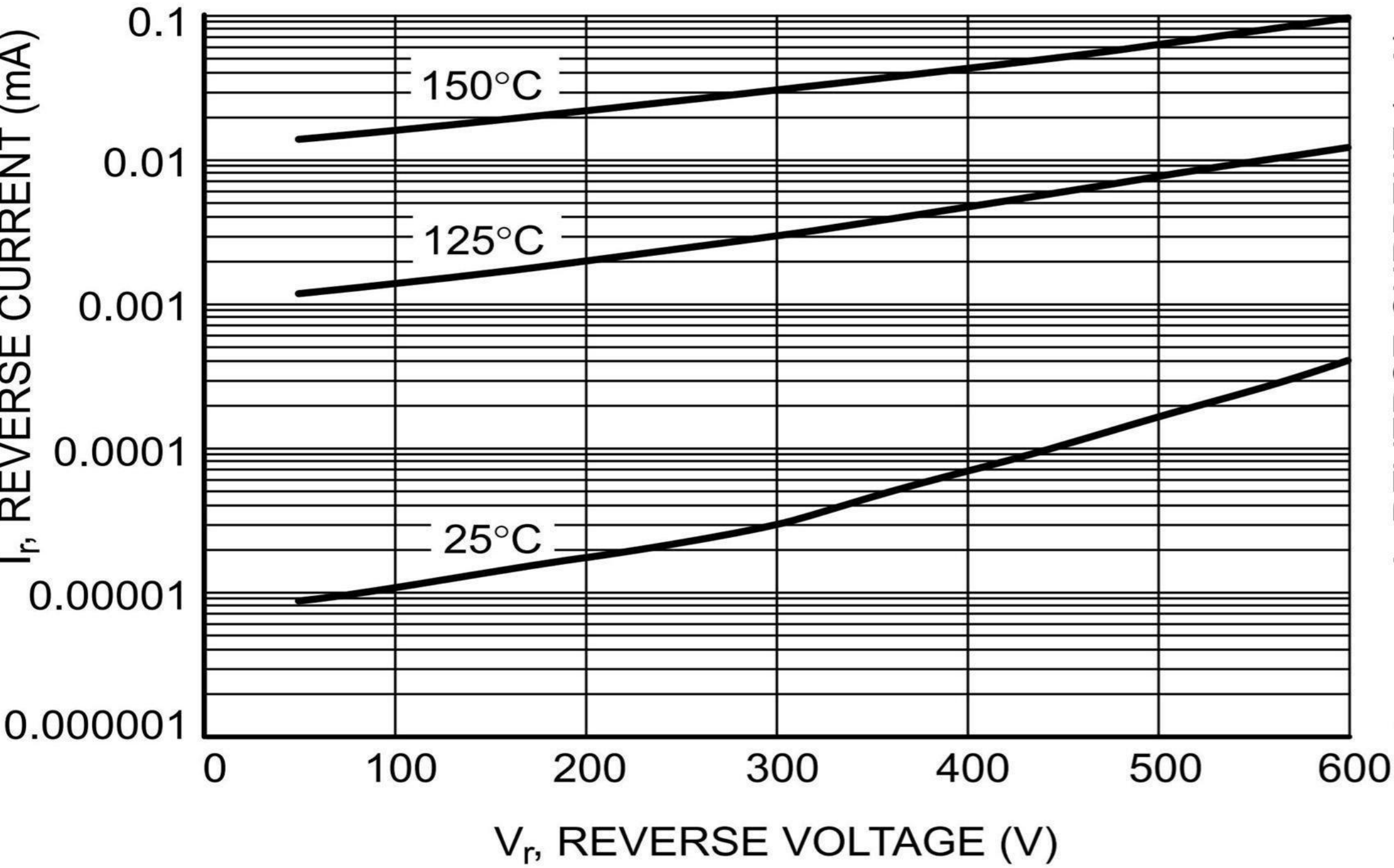


Figure 3. Typical Reverse Current

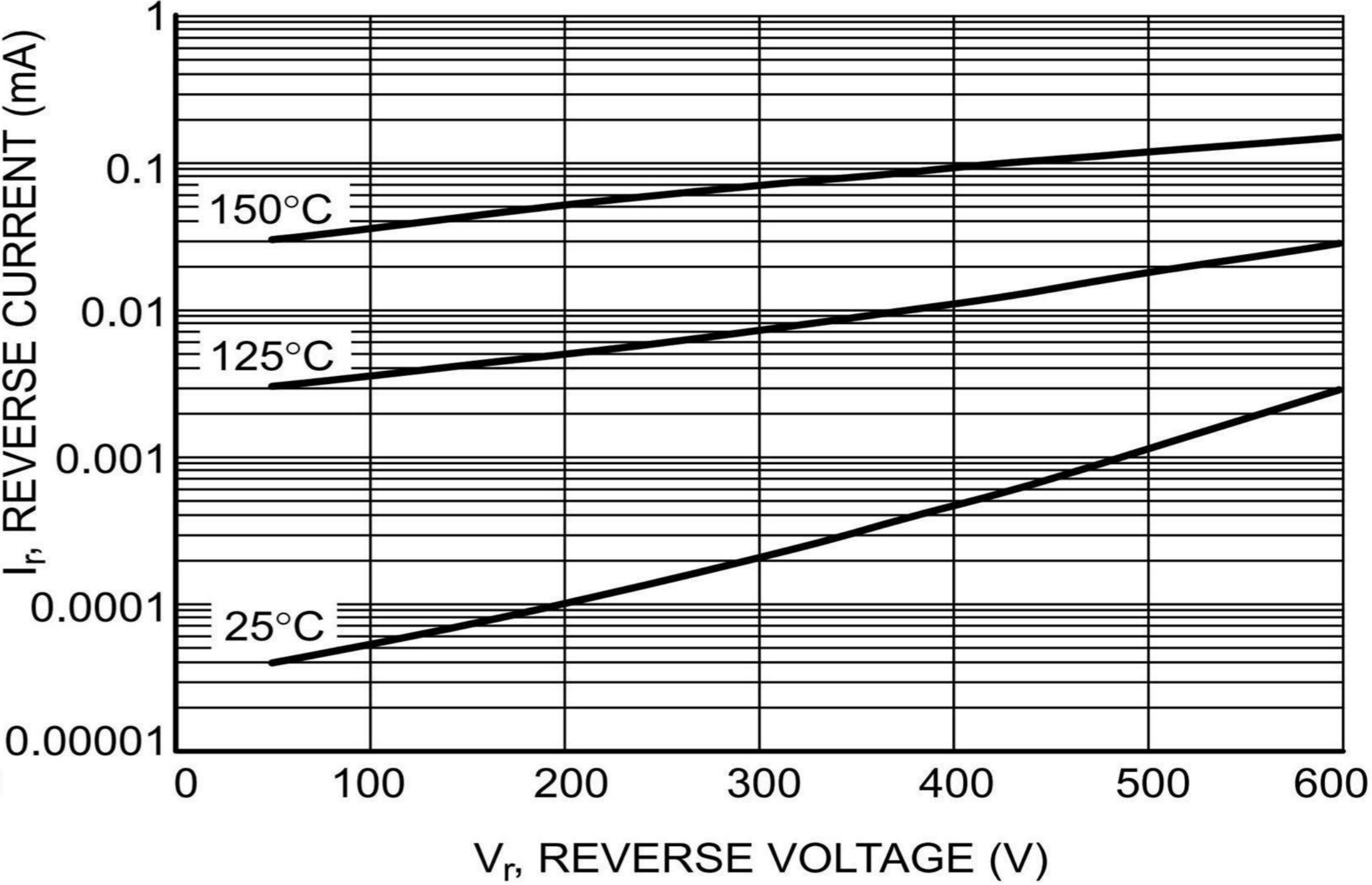


Figure 4. Maximum Reverse Current

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TYPICAL CHARACTERISTICS

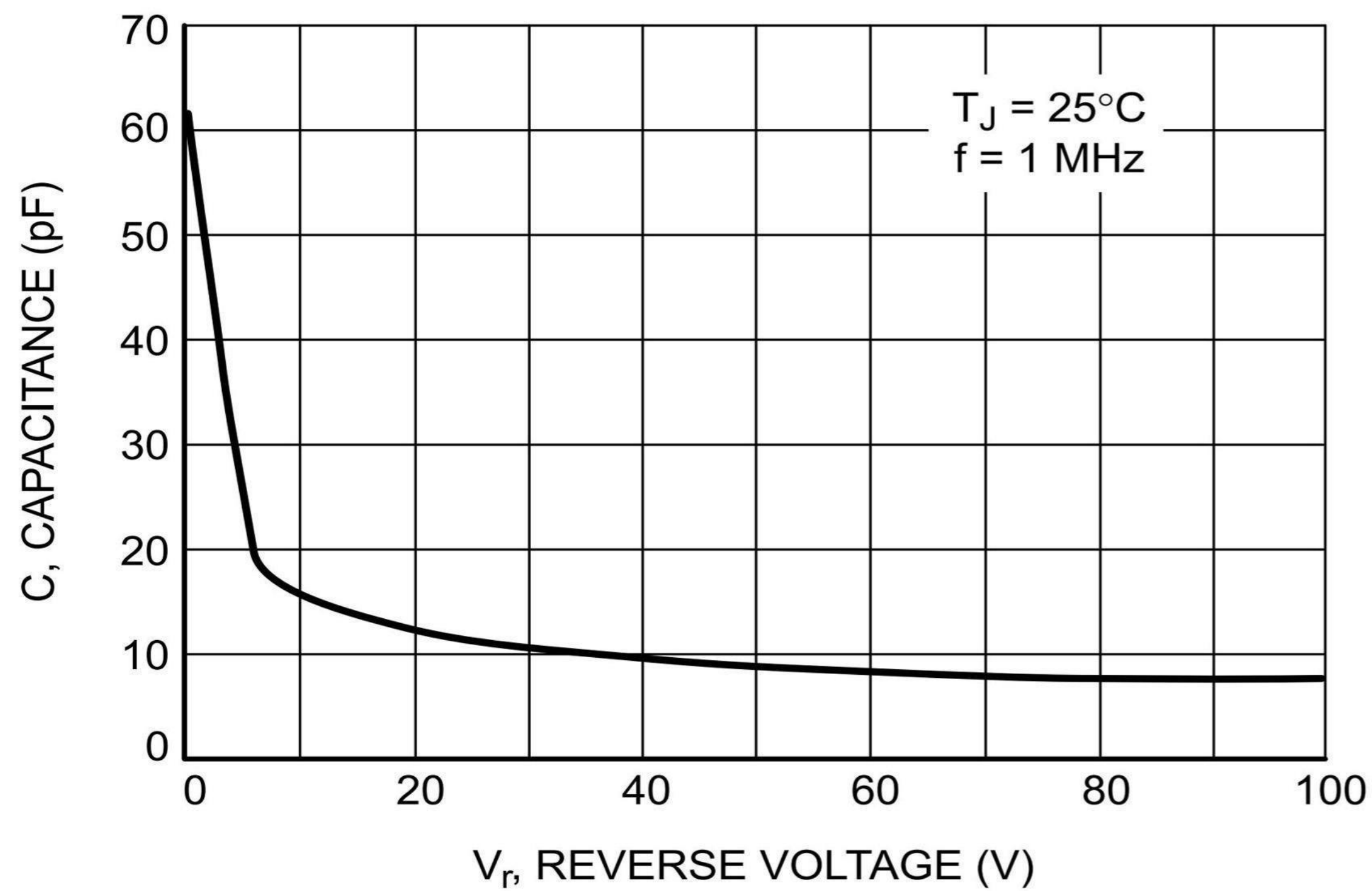


Figure 5. Typical Capacitance

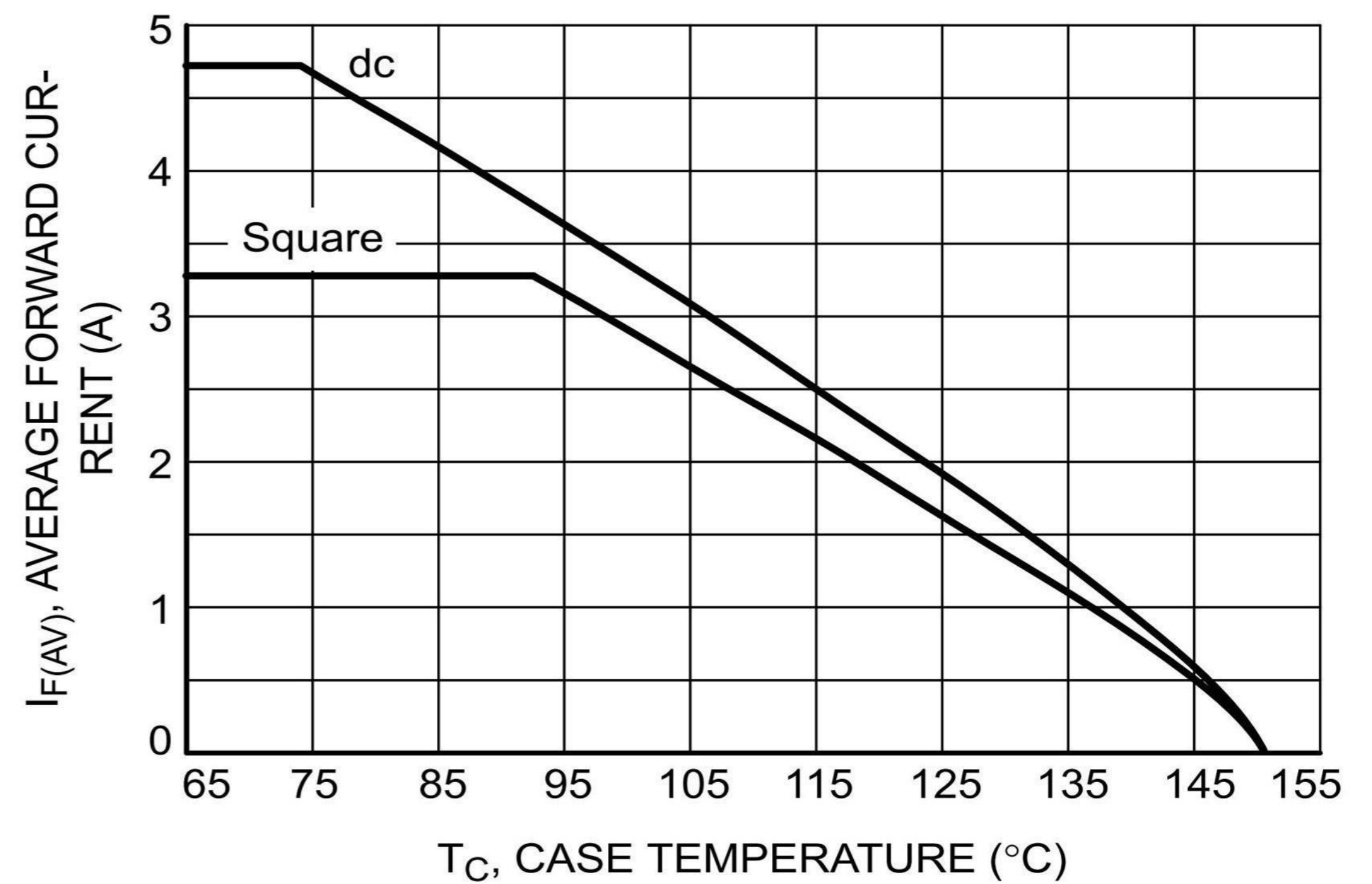


Figure 6. Current Derating, Lead

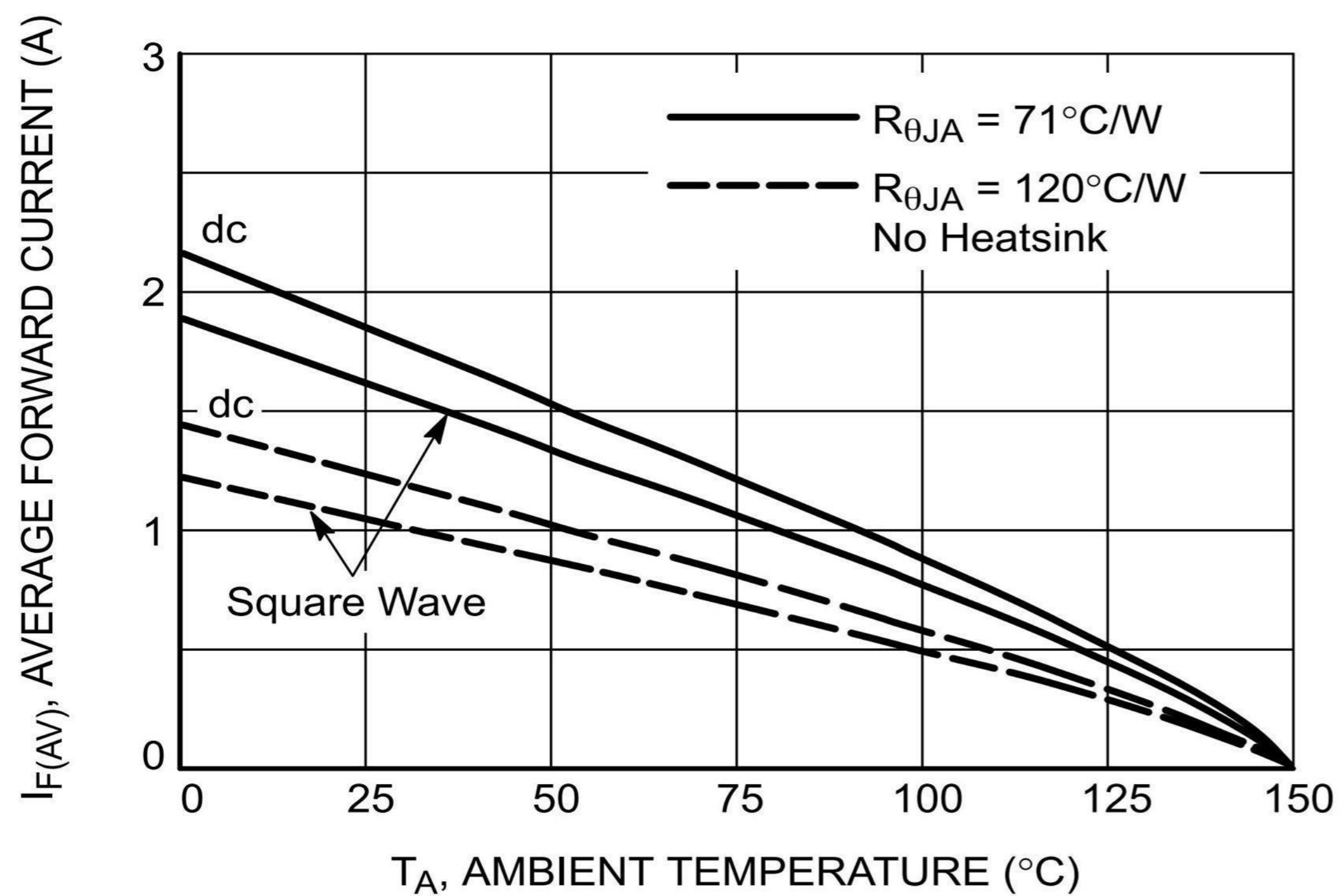


Figure 7. Current Derating, Ambient

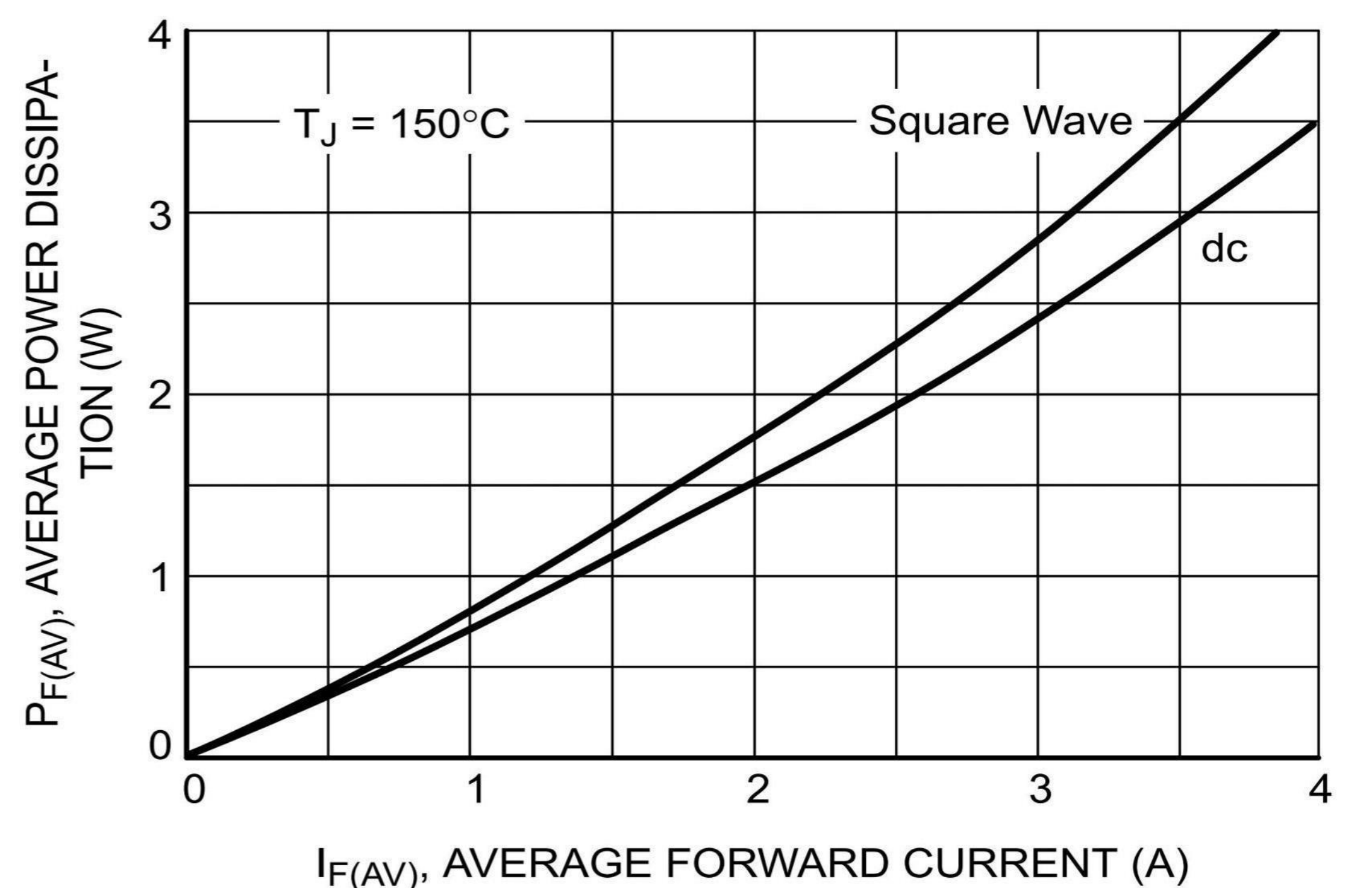


Figure 8. Typical Forward Power Dissipation

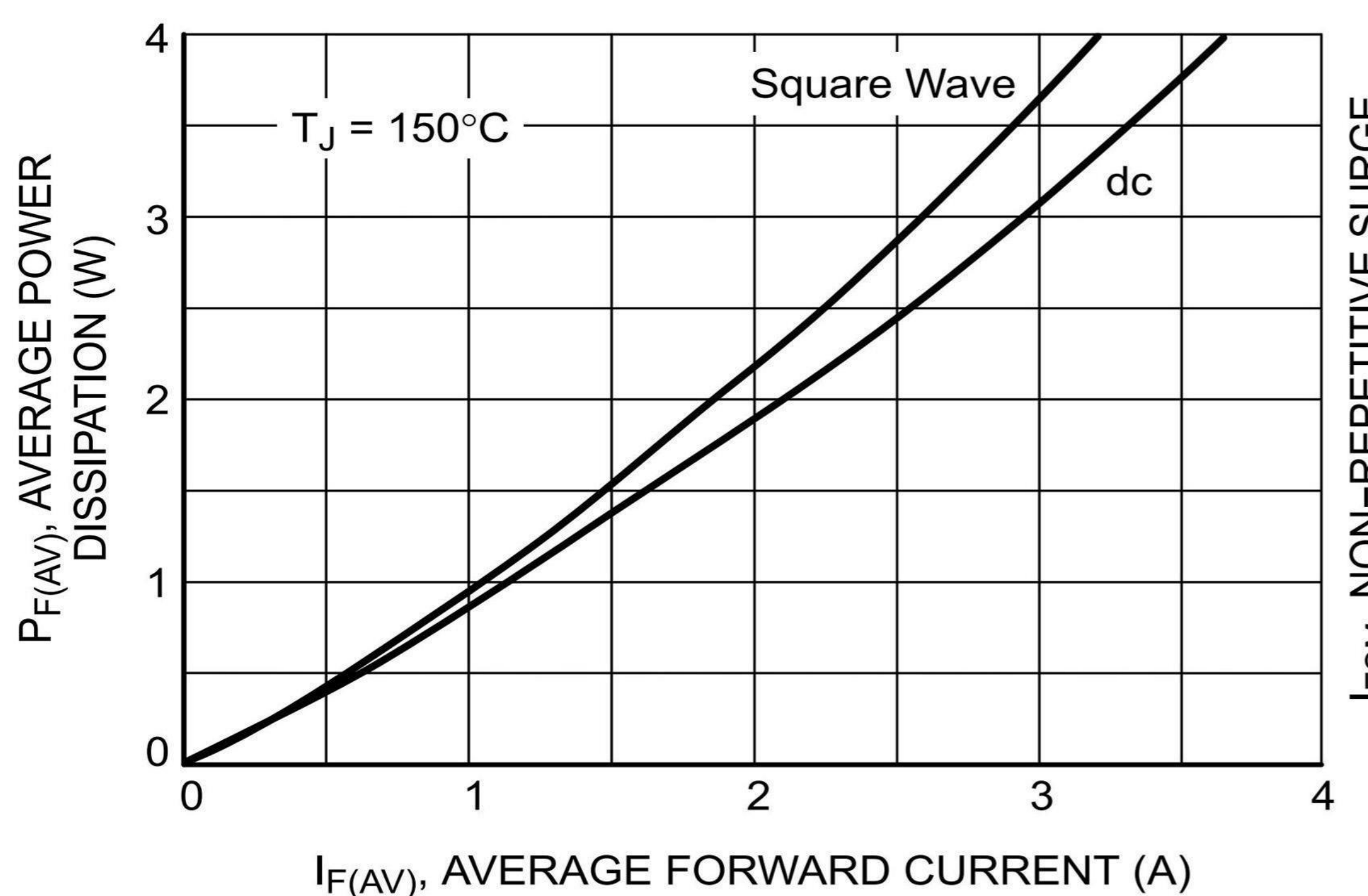


Figure 9. Maximum Forward Power Dissipation

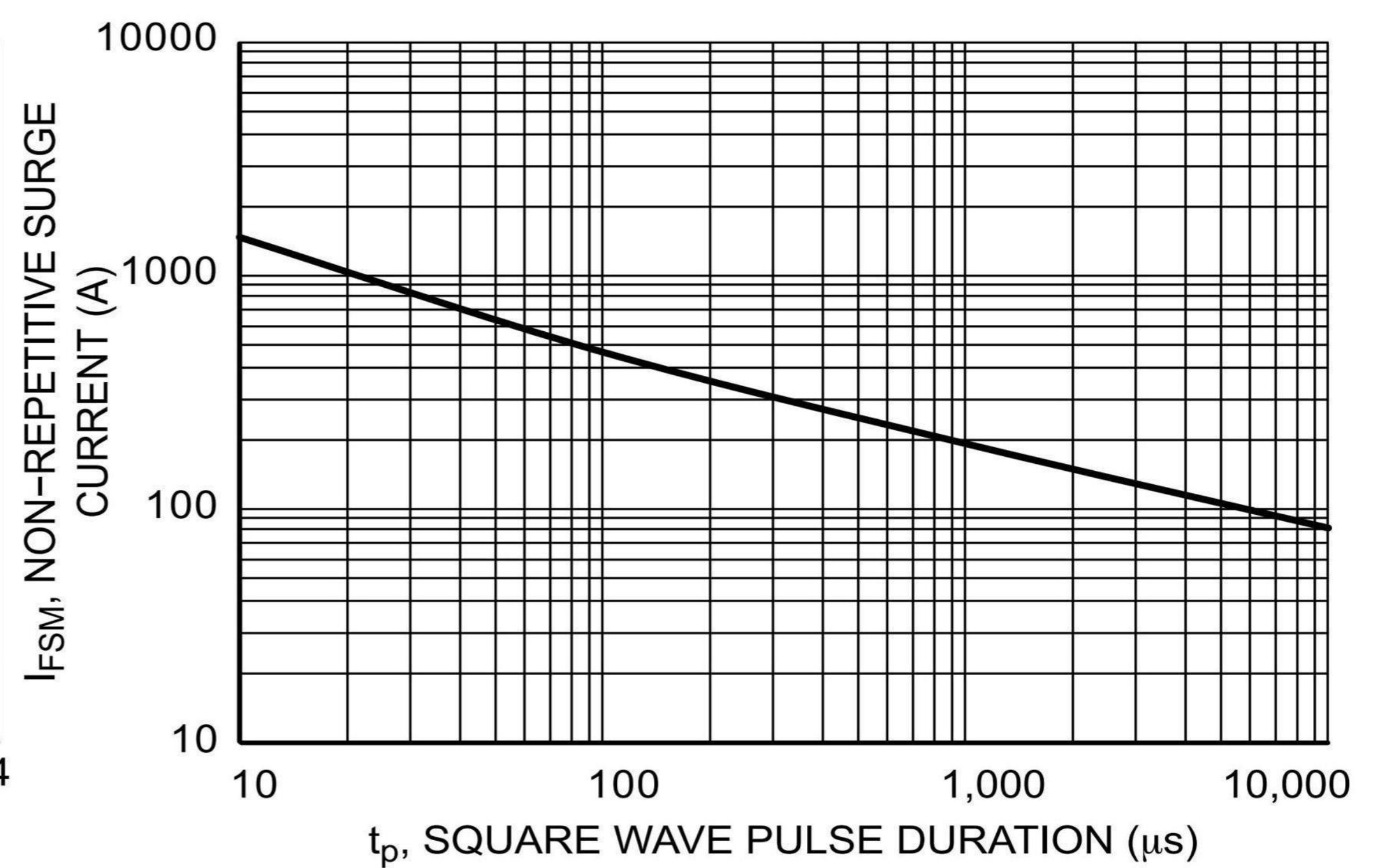


Figure 10. Typical Non-Repetitive Surge Current

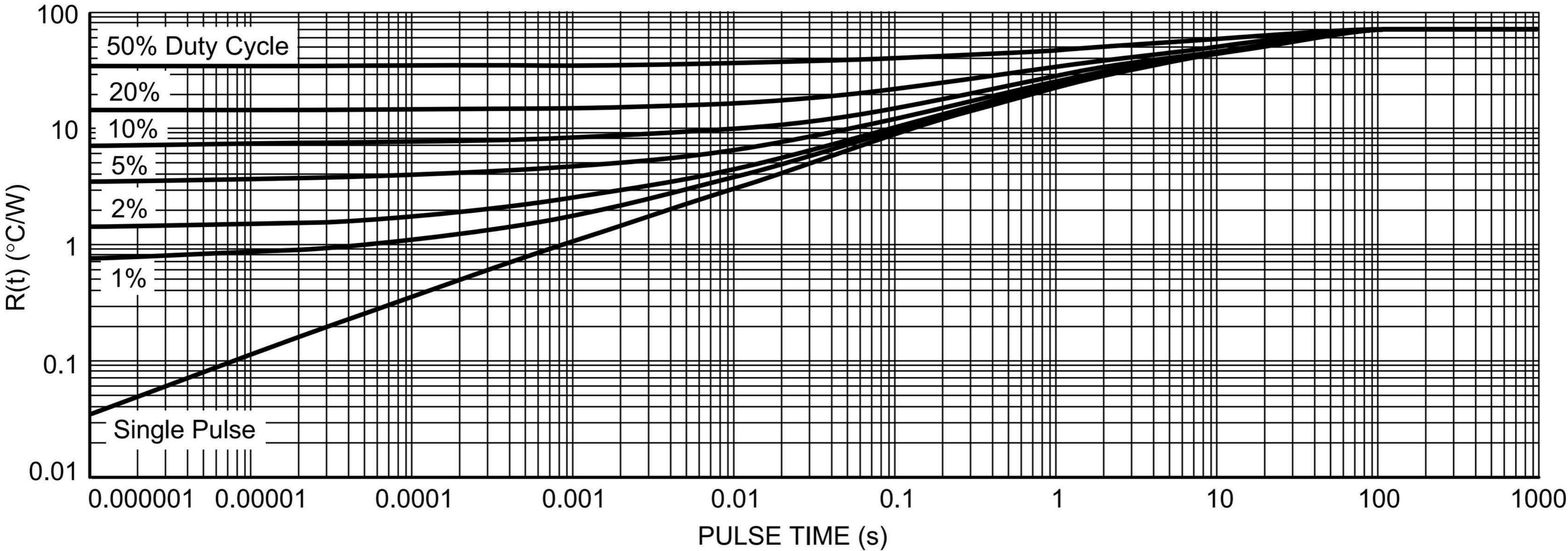


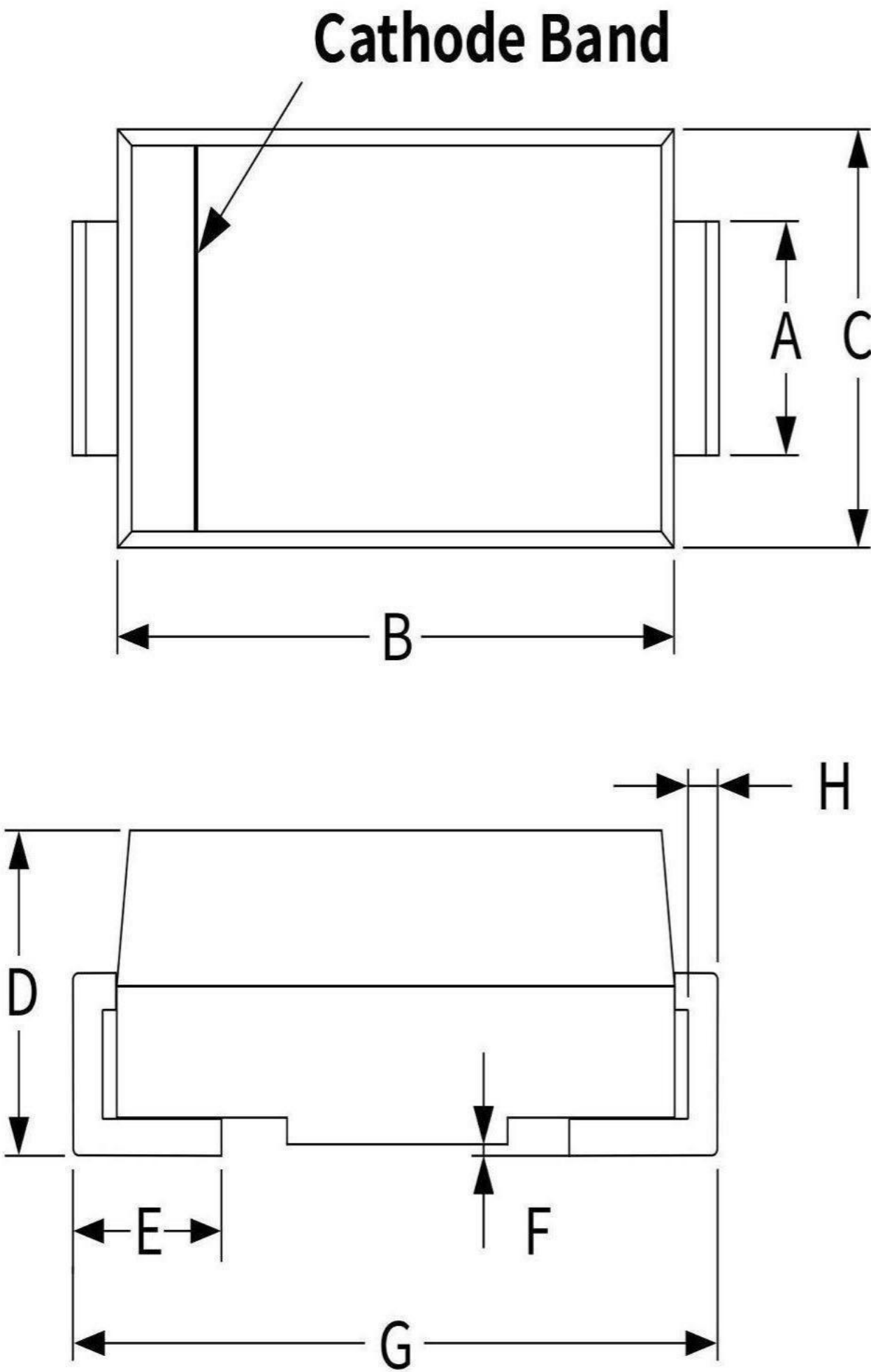
Figure 11. Thermal Response, Junction-to-Ambient

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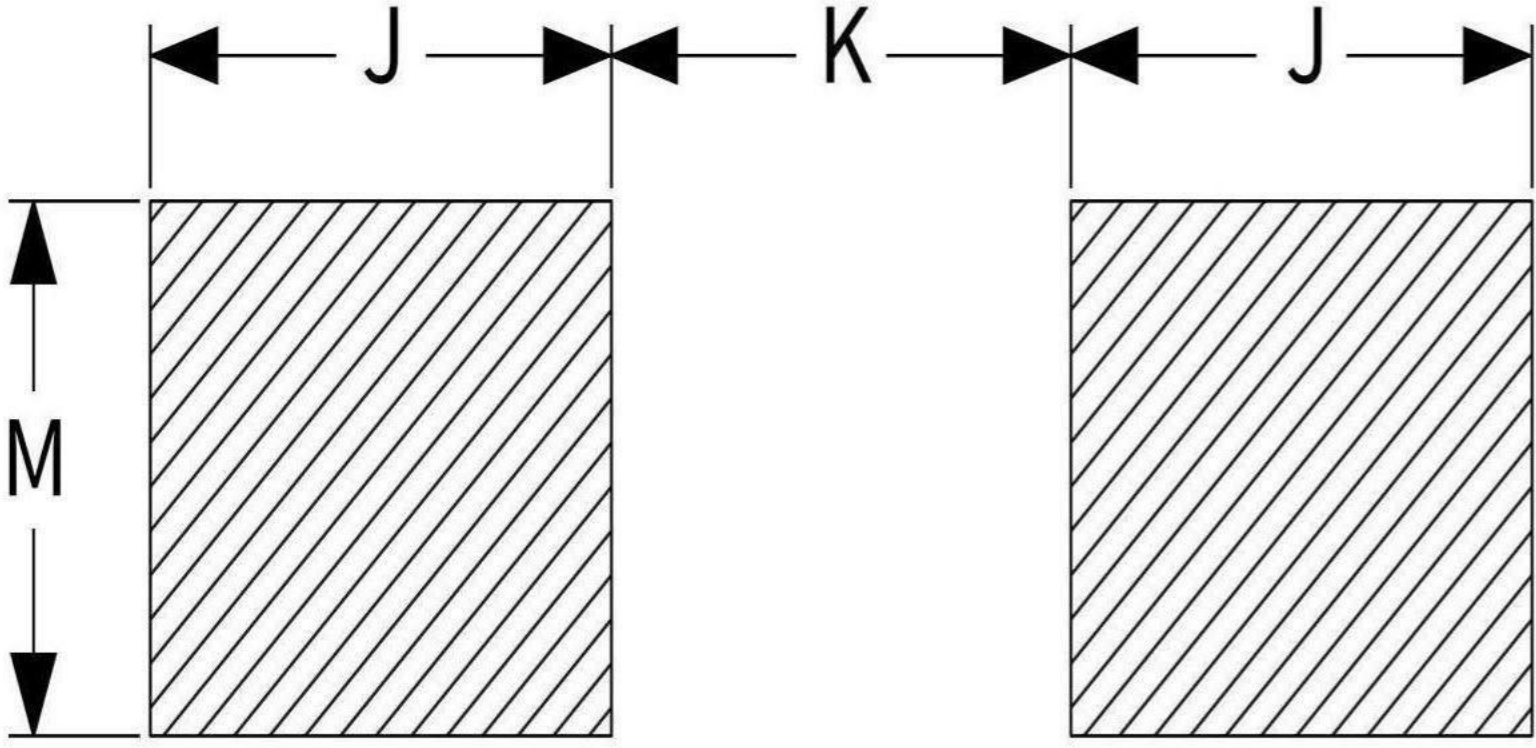
Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SMB	R3	0.098	2500	5000	25000	13

Package Outline Dimensions (SMB/DO-214AA)

	Symbol	Dimensions			
		Millimeters		Inches	
		Min.	Max.	Min.	Max.
	A	1.85	2.21	0.073	0.087
	B	4.25	4.85	0.167	0.191
	C	3.30	3.94	0.130	0.155
	D	2.15	2.65	0.085	0.104
	E	0.75	1.52	0.030	0.060
	F	-	0.203	-	0.008
	G	5.08	5.59	0.200	0.220
	H	0.15	0.31	0.006	0.012

Suggested Pad Layout

	Symbol	Dimensions			
		Millimeters		Inches	
		Min.	Max.	Min.	Max.
	M	2.26	-	0.089	-
	J	2.10	-	0.085	-
	K	-	2.74	-	0.107