Excellent Integrated System Limited

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Vishay Semiconductor/Diodes Division
M100J-E3/73

For any questions, you can email us directly:
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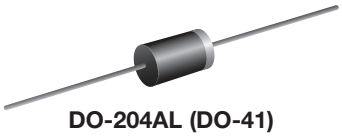
M100A, M100B, M100D, M100G, M100J, M100K, M100M

General Purpose Plastic Rectifier



DO-204AL (DO-41)

FEATURES

- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

TYPICAL APPLICATIONS

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes application.

MECHANICAL DATA

Case: DO-204AL, molded epoxy body
Molding compound meets UL 94 V-0 flammabilit rating
Base P/N-E3 - RoHS-compliant, commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102
E3 suffix meets JESD 201 class 1A whisker test

Polarity: Color band denotes cathode end

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1.0 A
V_{RRM}	50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V
I_{FSM}	50 A
I_R	1.0 µA
V_F at I_F = 1.0 A	1.0 V, 1.1 V
T_J max.	150 °C
Package	DO-204AL (DO-41)
Diode variations	Single die

MAXIMUM RATINGS (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	M100A	M100B	M100D	M100G	M100J	M100K	M100M	UNIT
Max. repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Max. RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Max. DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Max. average forward rectified current 0.375" (9.5 mm) lead length at T_A = 100 °C	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	50							A
Max. full load reverse current full cycle average 0.375" (9.5 mm) lead length at T_A = 55 °C	$I_{R(AV)}$	100							µA
Operating junction and storage temperature range	T_J, T_{STG}	- 50 to + 150							°C

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

PARAMETER	TEST CONDITIONS		SYMBOL	M100A	M100B	M100D	M100G	M100J	M100K	M100M	UNIT
Max. instantaneous forward voltage	1.0 A		V_F	1.0					1.1		V
Max. DC reverse current at rated DC blocking voltage		T_A = 25 °C	I_R	1.0							µA
		T_A = 100 °C		50							
Typical reverse recovery time	I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A		t_{rr}	2.0							µs
Typical junction capacitance	4.0 V, 1 MHz		C_J	15							pF

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)									
PARAMETER	SYMBOL	M100A	M100B	M100D	M100G	M100J	M100K	M100M	UNIT
Typical thermal resistance	$R_{\theta JA}$ (1)	50							°C/W
	$R_{\theta JL}$ (1)	25							

Note

(1) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5 mm) lead length, PCB mounted

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
M100J-E3/54	0.33	54	5500	13" diameter paper tape and reel
M100J-E3/73	0.33	73	3000	Ammo pack packaging

RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

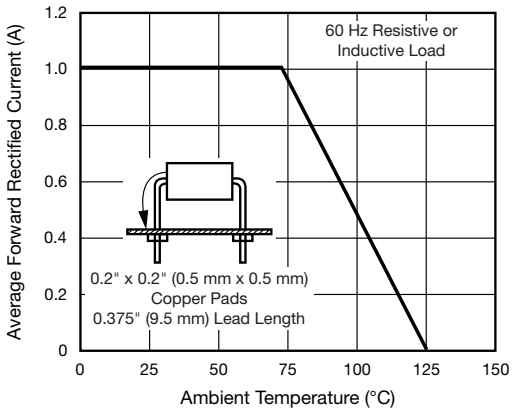


Fig. 1 - Forward Current Derating Curve

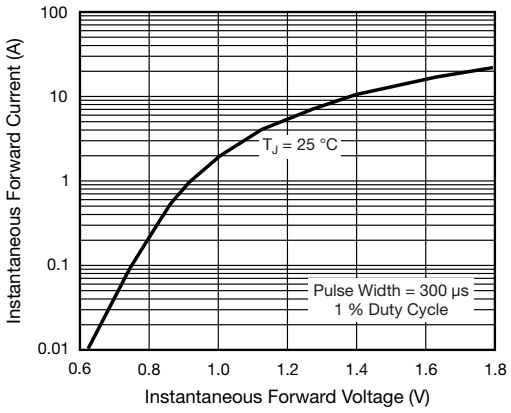


Fig. 3 - Typical Instantaneous Forward Characteristics

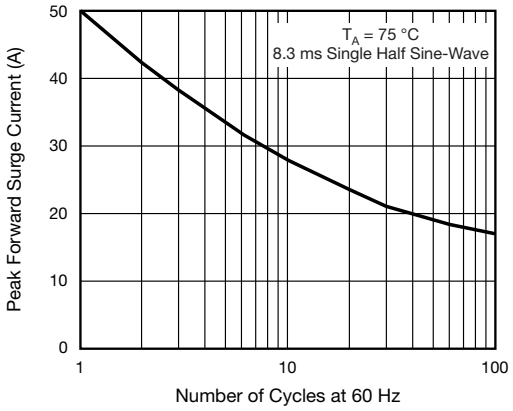


Fig. 2 - Max. Non-Repetitive Peak Forward Surge Current

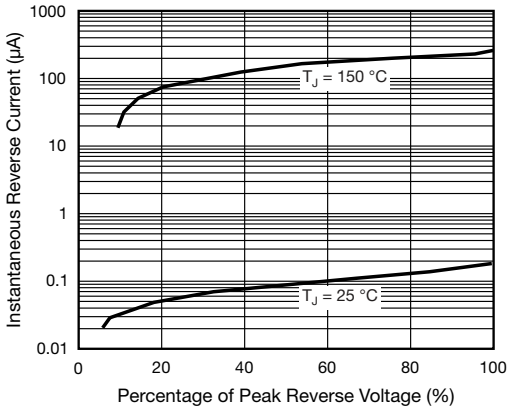


Fig. 4 - Typical Reverse Characteristics

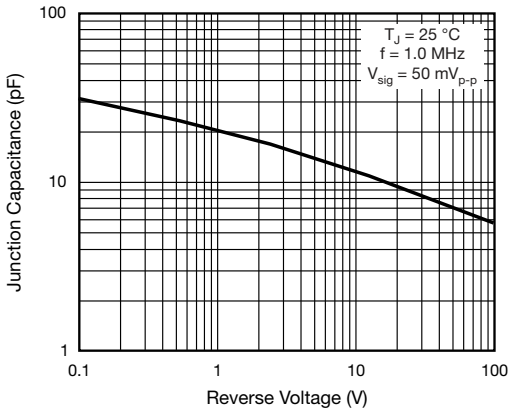


Fig. 5 - Typical Junction Capacitance

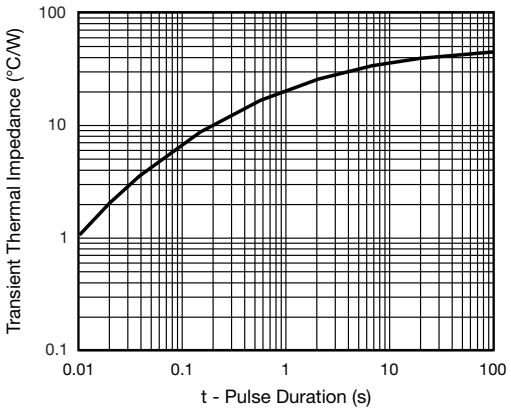
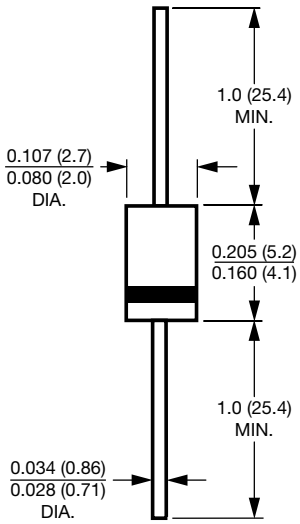


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AL (DO-41)



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