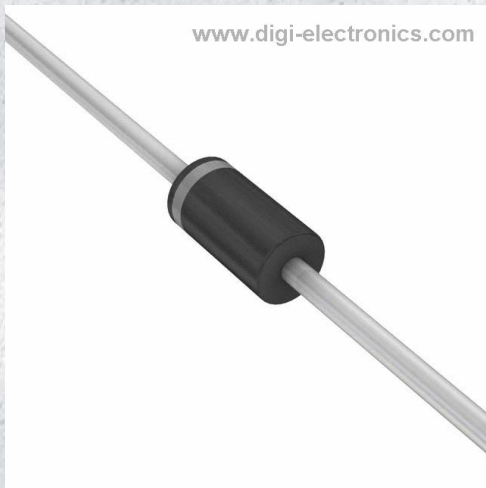


1N4007GP-E3/73 Datasheet



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	1N4007GP-E3/73-DG
Manufacturer	Vishay General Semiconductor - Diodes Division
Manufacturer Product Number	1N4007GP-E3/73
Description	DIODE GEN PURP 1KV 1A DO204AL
Detailed Description	Diode 1000 V 1A Through Hole DO-204AL (DO-41)

This model 1N4007GP-E3/73 is available at DiGi Electronics.

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Manufacturer Product Number:

1N4007GP-E3/73

Series:

SUPERECTIFIER®

Technology:

Standard

Current - Average Rectified (Io):

1A

Speed:

Standard Recovery >500ns, > 200mA (Io)

Current - Reverse Leakage @ Vr:

5 µA @ 1000 V

Mounting Type:

Through Hole

Supplier Device Package:

DO-204AL (DO-41)

Base Product Number:

1N4007

Manufacturer:

Vishay General Semiconductor - Diodes Division

Product Status:

Active

Voltage - DC Reverse (Vr) (Max):

1000 V

Voltage - Forward (Vf) (Max) @ If:

1.1 V @ 1 A

Reverse Recovery Time (trr):

2 µs

Capacitance @ Vr, F:

8pF @ 4V, 1MHz

Package / Case:

DO-204AL, DO-41, Axial

Operating Temperature - Junction:

-65°C ~ 175°C

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.10.0080

Moisture Sensitivity Level (MSL):

1 (Unlimited)

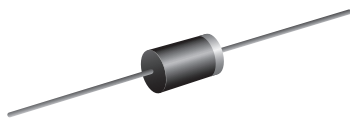
ECCN:

EAR99



Glass Passivated Junction Plastic Rectifier

SUPERECTIFIER®



DO-41 (DO-204AL)

FEATURES

- Superectifier structure for high reliability application
- Cavity-free glass-passivated junction
- Low forward voltage drop
- Low leakage current, typical I_R less than 0.1 μA
- 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

RoHS
COMPLIANT

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} (8.3 ms sine-wave)	30 A
I_R	5.0 μA
V_F	1.1 V
T_J max.	175 °C
Package	DO-41 (DO-204AL)
Circuit configuration	Single

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: DO-41 (DO-204AL), molded epoxy over glass body

Molding compound meets UL 94 V-0 flammability 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

MAXIMUM RATINGS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)									
PARAMETER	SYMBOL	1N4001GP	1N4002GP	1N4003GP	1N4004GP	1N4005GP	1N4006GP	1N4007GP	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS} ⁽¹⁾	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC} ⁽¹⁾	50	100	200	400	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 75\text{ }^\circ\text{C}$	$I_{F(AV)}$ ⁽¹⁾	1.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM} ⁽¹⁾	30							A
Non-repetitive peak forward surge current square waveform $T_A = 25\text{ }^\circ\text{C}$ (fig. 3)	I_{FSM} ⁽¹⁾	$t_p = 1\text{ ms}$							A
		$t_p = 2\text{ ms}$							
		$t_p = 5\text{ ms}$							
Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length $T_A = 75\text{ }^\circ\text{C}$	$I_{R(AV)}$ ⁽¹⁾	30							μA
Rating for fusing ($t < 8.3\text{ ms}$)	I^2t ⁽²⁾	3.7							A^2s
Operating junction and storage temperature range	T_J, T_{STG} ⁽¹⁾	-65 to +175							$^\circ\text{C}$

Notes

⁽¹⁾ JEDEC® registered values

⁽²⁾ For device using on bridge rectifier application



ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	1N4001GP	1N4002GP	1N4003GP	1N4004GP	1N4005GP	1N4006GP	1N4007GP	UNIT
Maximum instantaneous forward voltage	1.0 A	V _F				1.1				V
Maximum DC reverse current at rated DC blocking voltage	T _A = 25 °C	I _R ⁽¹⁾				5.0				μA
	T _A = 125 °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				8.0				pF

Note

(1) JEDEC® registered values

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)										
PARAMETER	SYMBOL	1N4001GP	1N4002GP	1N4003GP	1N4004GP	1N4005GP	1N4006GP	1N4007GP	UNIT	
Typical thermal resistance	R _{θJA} ⁽¹⁾				55				°C/ W	
	R _{θJL} ⁽¹⁾				25					

Note

(1) Thermal resistance from junction to ambient 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
1N4004GP-E3/54	0.335	54	5500	13" diameter paper tape and reel
1N4004GP-E3/73	0.335	73	3000	Ammo pack packaging

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

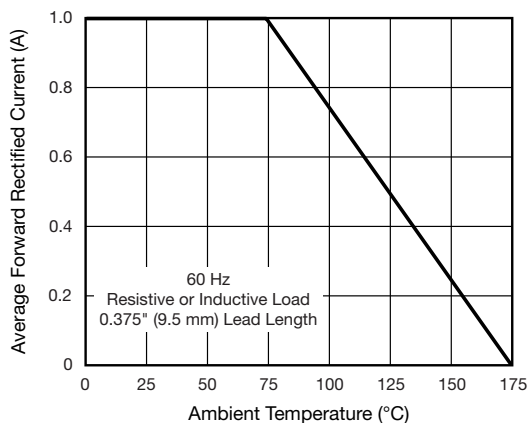


Fig. 1 - Forward Current Derating Curve

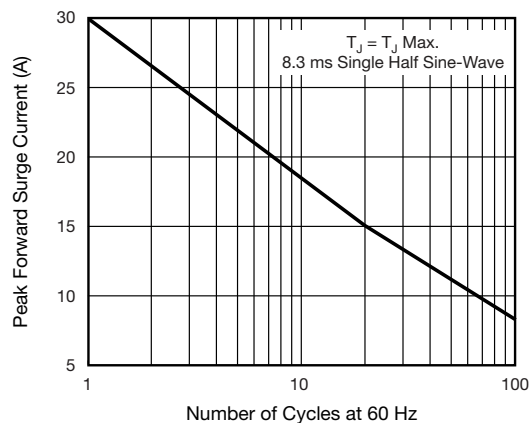


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

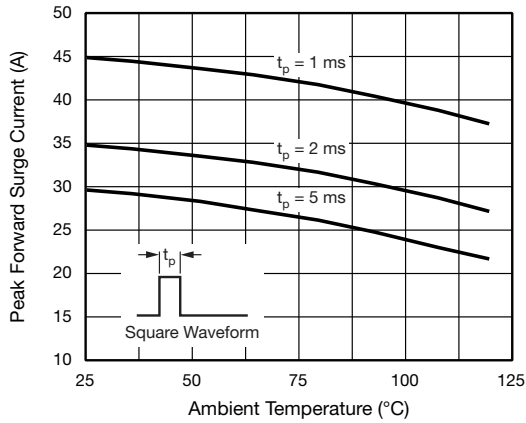


Fig. 3 - Non-Repetitive Peak Forward Surge Current

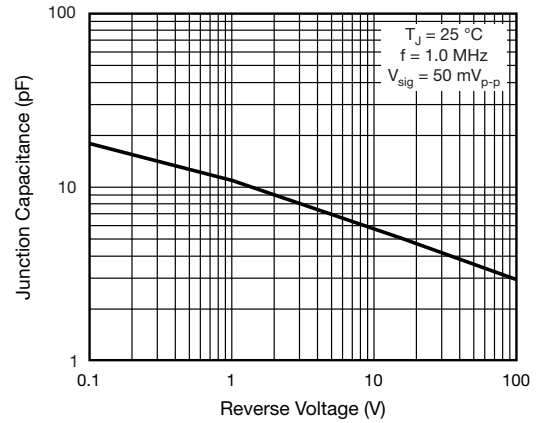


Fig. 6 - Typical Junction Capacitance

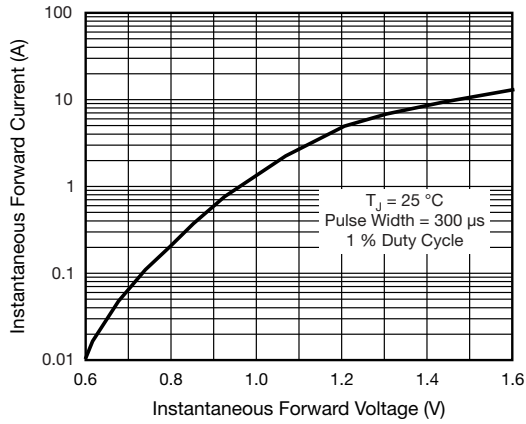


Fig. 4 - Typical Instantaneous Forward Characteristics

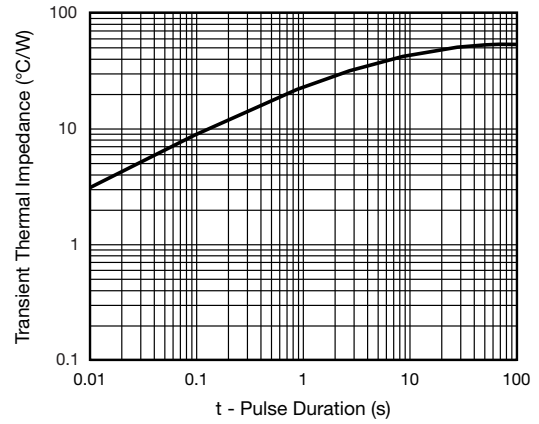


Fig. 7 - Typical Transient Thermal Impedance

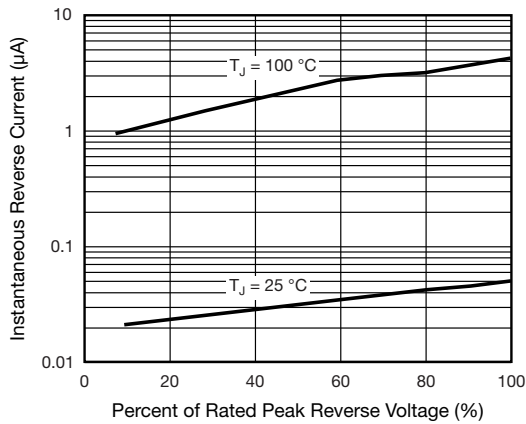
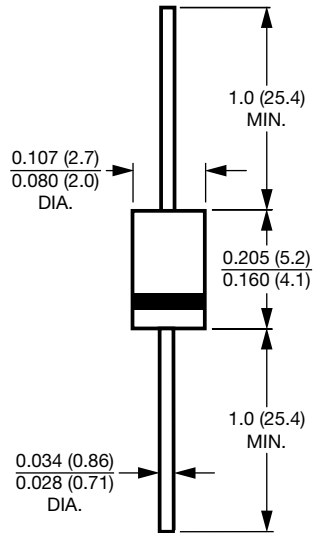


Fig. 5 - Typical Reverse Characteristics



PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-41 (DO-204AL)



Note

- Lead diameter is $\frac{0.026 (0.66)}{0.023 (0.58)}$ for suffix "E" part numbers



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