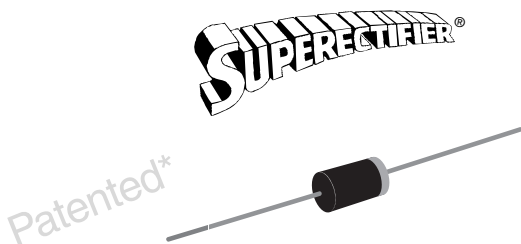


Glass Passivated Junction Rectifier



* Glass-plastic encapsulation technique is covered by Patent No. 3,996,602, and brazed-lead assembly by Patent No. 3,930,306

DO-204AC (DO-15)

FEATURES

- Superectifier structure for high reliability application
- Cavity-free glass-passivated junction
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Meets environmental standard MIL-S-19500
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



RoHS
COMPLIANT

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: DO-204AC, molded epoxy over glass body

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC Q101 qualified), meets JESD 201 class 2 whisker test

Polarity: Color band denotes cathode end

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1.0 A
V_{RRM}	200 V to 800 V
I_{FSM}	50 A
I_R	5.0 μ A
V_F	1.2 V
T_J max.	175 °C

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)						
PARAMETER	SYMBOL	1N5059GP	1N5060GP	1N5061GP	1N5062GP	UNIT
Maximum repetitive peak reverse voltage ⁽¹⁾	V_{RRM}	200	400	600	800	V
Maximum RMS voltage	V_{RMS}	140	280	420	560	V
Maximum DC blocking voltage ⁽¹⁾	V_{DC}	200	400	600	800	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 75$ °C ⁽¹⁾	$I_{F(AV)}$	1.0				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load ⁽¹⁾	I_{FSM}	50				A
Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length at ⁽¹⁾ $T_A = 25$ °C $T_A = 75$ °C	$I_{R(AV)}$	5.0 150				μ A
Operating junction and storage temperature range	T_J, T_{STG}	- 65 to + 175				°C

Note:

(1) JEDEC registered values

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	1N5059GP	1N5060GP	1N5061GP	1N5062GP	UNIT
Max. instantaneous forward voltage ⁽¹⁾	1.0 A, $T_A = 75\text{ }^{\circ}\text{C}$	V_F	1.2				V
Maximum DC reverse current at rated DC blocking voltage ⁽¹⁾	$T_A = 25\text{ }^{\circ}\text{C}$ $T_A = 175\text{ }^{\circ}\text{C}$	I_R	5.0 300				μA
Typical reverse recovery time	$I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $t_{rr} = 0.25\text{ A}$	t_{rr}	2.0				μs
Typical junction capacitance	4.0 V, 1 MHz	C_J	15				pF

Note:

(1) JEDEC registered values

THERMAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	1N5059GP	1N5060GP	1N5061GP	1N5062GP	UNIT
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$ $R_{\theta JL}$	45 20				$^{\circ}\text{C/W}$

Note:

(1) Thermal resistance from junction to ambient at 0.375" (9.5 mm) lead length, P.C.B. mounted

ORDERING INFORMATION (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
1N5061GP-E3/54	0.425	54	4000	13" diameter paper tape and reel
1N5061GP-E3/73	0.425	73	2000	Ammo pack packaging
1N5061GPHE3/54 ⁽¹⁾	0.425	54	4000	13" diameter paper tape and reel
1N5061GPHE3/73 ⁽¹⁾	0.425	73	2000	Ammo pack packaging

Note:

(1) Automotive grade AEC Q101 qualified

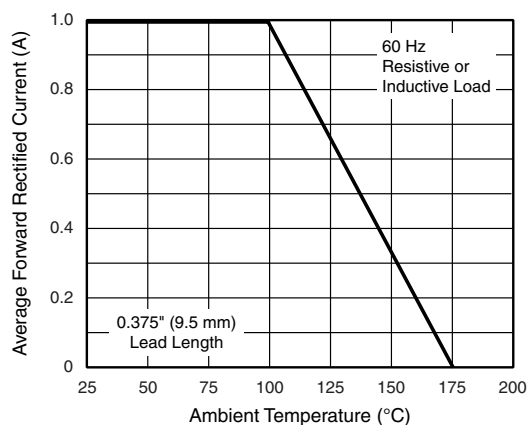
RATINGS AND CHARACTERISTICS CURVES($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Figure 1. Forward Current Derating Curve

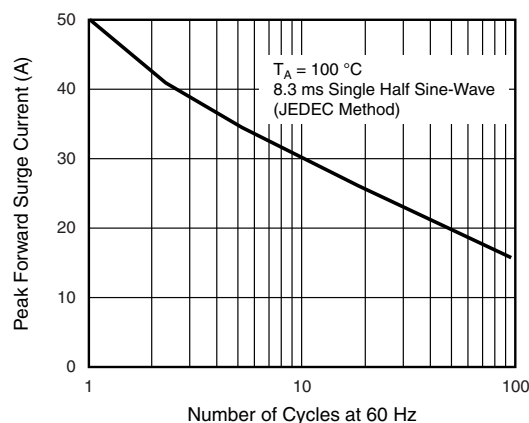


Figure 2. Maximum Non-repetitive Peak Forward Surge Current

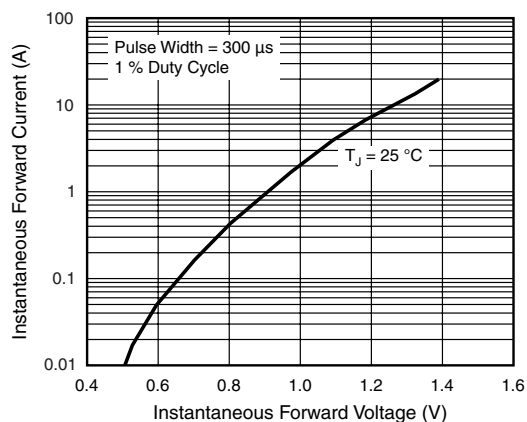


Figure 3. Typical Instantaneous Forward Characteristics

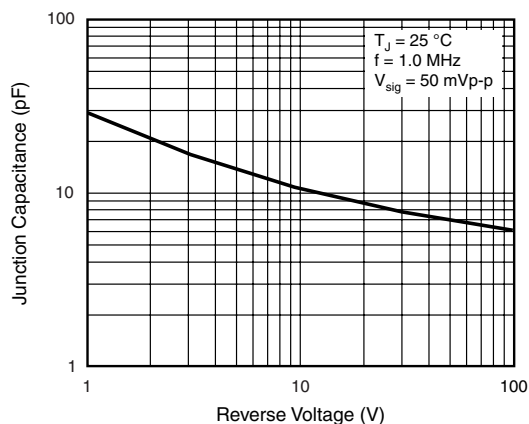


Figure 5. Typical Junction Capacitance

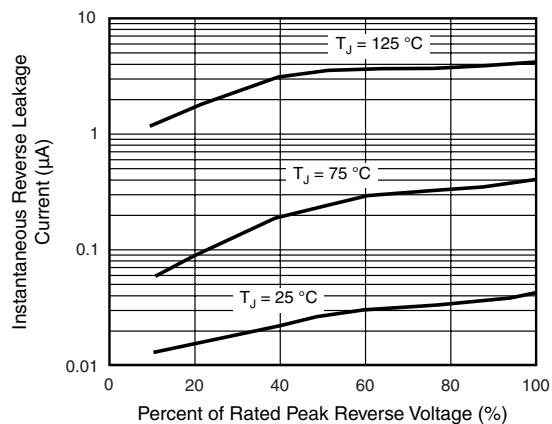


Figure 4. Typical Reverse Characteristics

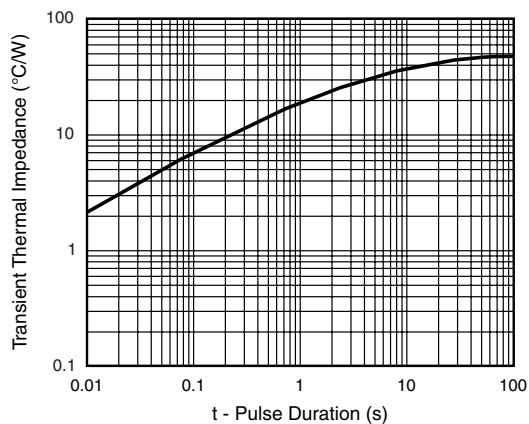
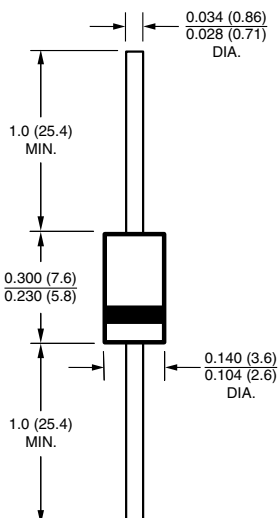


Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AC (DO-15)





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