

## Glass Passivated Junction Rectifier



DO-204AL (DO-41)

### FEATURES

- Glass passivated chip junction
- Low forward voltage drop
- Low leakage current, typical  $I_R$  less than 0.1  $\mu\text{A}$
- High forward surge capability
- Meets environmental standard MIL-S-19500
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Compliant to RoHS directive 2002/95/EC and in accordance to 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-204AL, molded epoxy over passivated chip  
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

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1.0 A
$V_{RRM}$	50 V to 1000 V
$I_{FSM}$	30 A
$I_R$	5.0 $\mu\text{A}$
$V_F$	1.1 V
$T_J$ max.	150 °C

MAXIMUM RATINGS ( $T_A = 25\text{ °C}$ unless otherwise noted)									
PARAMETER	SYMBOL	GPP10A	GPP10B	GPP10D	GPP10G	GPP10J	GPP10K	GPP10M	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 75\text{ °C}$	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	30							A
Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length $T_A = 75\text{ °C}$	$I_{R(AV)}$	30							$\mu\text{A}$
Operating junction and storage temperature range	$T_J, T_{STG}$	- 55 to + 150							°C

ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)										
PARAMETER	TEST CONDITIONS	SYMBOL	GPP10A	GPP10B	GPP10D	GPP10G	GPP10J	GPP10K	GPP10M	UNIT
Maximum instantaneous forward voltage	1.0 A	V <sub>F</sub>				1.1				V
Maximum DC reverse current at rated DC blocking voltage	T <sub>A</sub> = 25 °C	I <sub>R</sub>				5.0				μA
	T <sub>A</sub> = 100 °C					50				
Maximum junction capacitance	4.0 V, 1 MHz	C <sub>J</sub>				6				pF

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)										
PARAMETER	SYMBOL	GPP10A	GPP10B	GPP10D	GPP10G	GPP10J	GPP10K	GPP10M	UNIT	
Typical thermal resistance	R <sub>θJA</sub> <sup>(1)</sup>				50				°C/W	
	R <sub>θJL</sub> <sup>(1)</sup>				25					

**Note**

<sup>(1)</sup> 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
GPP10J-E3/54	0.34	54	5500	13" diameter paper tape and reel
GPP10J-E3/73	0.34	73	3000	Ammo pack packaging

**RATINGS AND CHARACTERISTICS CURVES**

(T<sub>A</sub> = 25 °C unless otherwise noted)

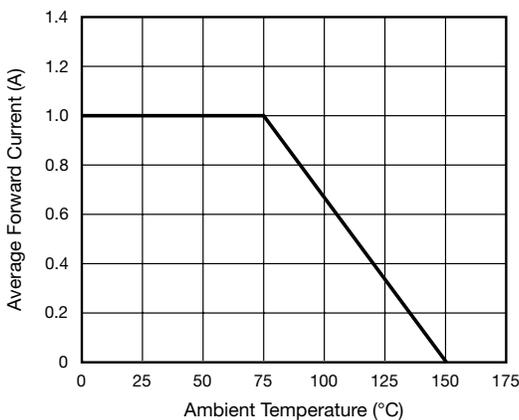


Fig. 1 - Forward Current Derating Curve

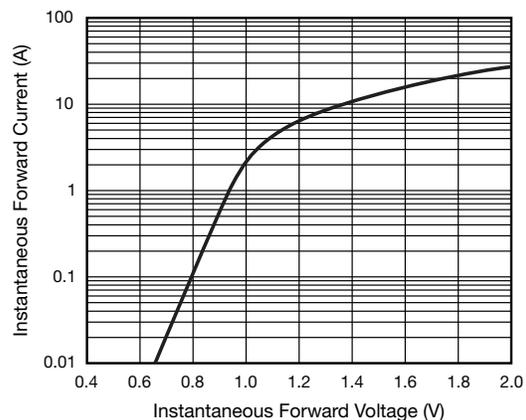


Fig. 2 - Typical Instantaneous Forward Characteristics Per Diode

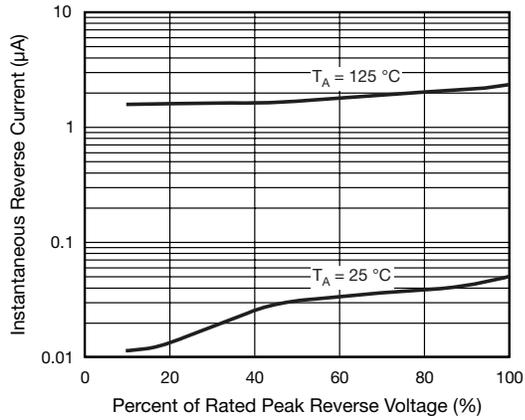


Fig. 3 - Typical Reverse Characteristics

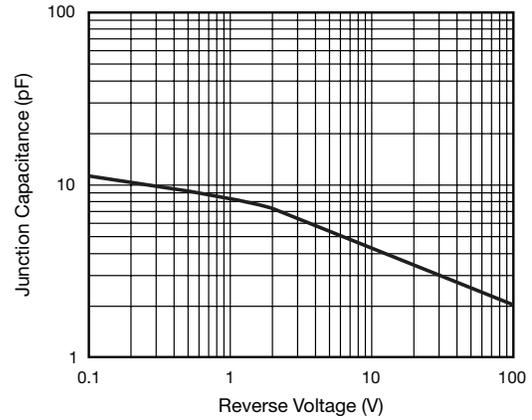
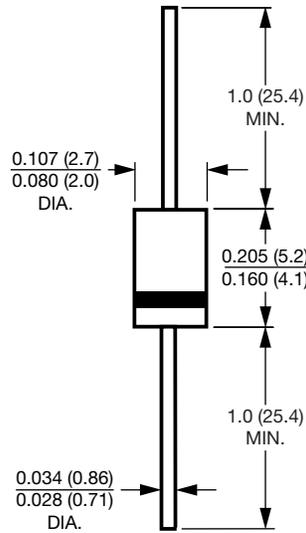


Fig. 4 - Typical Junction Capacitance

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

**DO-204AL (DO-41)**





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