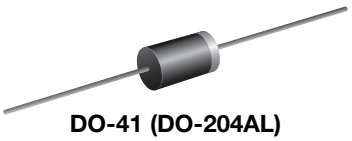
Glass Passivated Junction Plastic Rectifier



DO-41 (DO-204AL)

FEATURES

- Glass passivated chip junction
- Low forward voltage drop
- Low leakage current, typical I_R less than 0.1 µA
- High forward surge capability
- Meets environmental standard MIL-S-19500
- 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}	30 A
I_R	5.0 µA
V_F at I_F = 1.0 A	1.1 V
T_J max.	150 °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 application.

MECHANICAL DATA

Case: DO-41 (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

MAXIMUM RATINGS (T_A = 25 °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 °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 °C	$I_{R(AV)}$	30							µA
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150							°C

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ELECTRICAL CHARACTERISTICS (T_A = 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_F	1.1							V
Maximum DC reverse current at rated DC blocking voltage		T_A = 25 °C	I_R	5.0							μA
		T_A = 100 °C		50							
Maximum junction capacitance	4.0 V, 1 MHz		C_J	6							pF

THERMAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)										
PARAMETER	**SYMBOL**	**GPP10A**	**GPP10B**	**GPP10D**	**GPP10G**	**GPP10J**	**GPP10K**	**GPP10M**	**UNIT**
Typical thermal resistance	$R_{\theta JA}$ (1)	50							°C/W
	$R_{\theta JL}$ (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**
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_A = 25 °C unless otherwise noted)

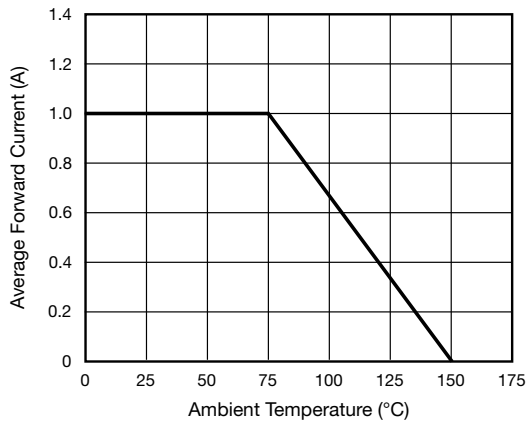

Fig. 1 - Forward Current Derating Curve

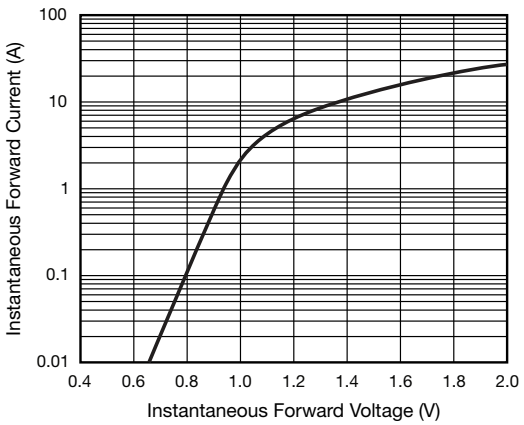

Fig. 2 - Typical Instantaneous Forward Characteristics Per Diode

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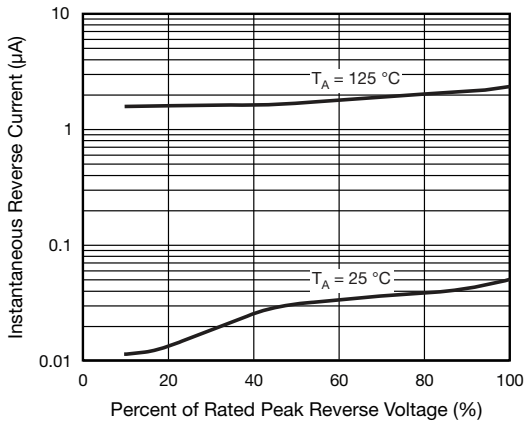


Fig. 3 - Typical Reverse Characteristics

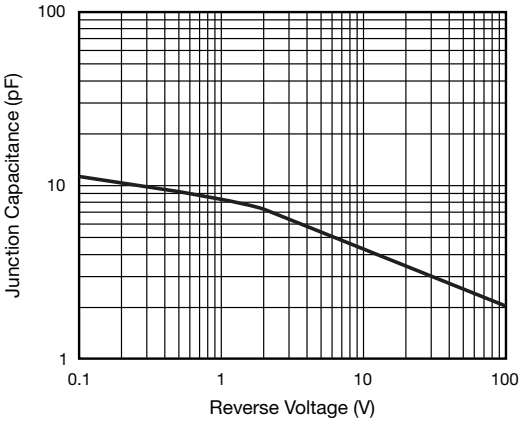
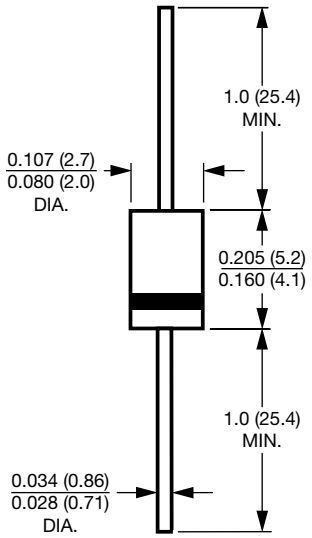


Fig. 4 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-41 (DO-204AL)



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