

## Glass Passivated Junction Plastic Rectifier


**DO-15 (DO-204AC)**
**SUPERRECTIFIER®**

### FEATURES

- Superrectifier structure for high reliability application
- Cavity-free glass-passivated junction
- 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](http://www.vishay.com/doc?99912)


**RoHS  
COMPLIANT**

### TYPICAL APPLICATIONS

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

### MECHANICAL DATA

**Case:** DO-15 (DO-204AC), 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

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1.0 A
$V_{RRM}$	200 V, 400 V, 600 V, 800 V, 1000 V
$I_{FSM}$	50 A
$I_R$	5.0 $\mu$ A
$V_F$	1.0 V
$T_J$ max.	175 °C
Package	DO-15 (DO-204AC)
Circuit configuration	Single

MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted) <sup>(1)</sup>							
PARAMETER	SYMBOL	1N4383GP	1N4384GP	1N4385GP	1N4585GP	1N4586GP	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	200	400	600	800	1000	V
Maximum 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
Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length at $T_A = 100$ °C	$I_{R(AV)}$	275	250	225	200	200	$\mu$ A
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +175					°C

**Note**
<sup>(1)</sup> JEDEC® registered values

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

PARAMETER	TEST CONDITIONS	SYMBOL	1N4383GP	1N4384GP	1N4385GP	1N4585GP	1N4586GP	UNIT
Maximum instantaneous forward voltage	1.0 A	$V_F$			1.0			V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25^\circ\text{C}$ $T_A = 150^\circ\text{C}$	$I_R$			5.0			$\mu\text{A}$
					250			
Typical reverse recovery time	$I_F = 0.5 \text{ A}$ , $I_R = 1.0 \text{ A}$ , $I_{rr} = 0.25 \text{ A}$	$t_{rr}^{(1)}$			2.0			$\mu\text{s}$
Typical junction capacitance	4.0 V, 1 MHz	$C_J$			15			$\text{pF}$

**Note**

(1) JEDEC registered values

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

PARAMETER	SYMBOL	1N4383GP	1N4384GP	1N4385GP	1N4585GP	1N4586GP	UNIT
Typical thermal resistance	$R_{\theta JA}^{(1)}$			45			$^\circ\text{C}/\text{W}$

**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
1N4385GP-E3/54	0.425	54	4000	13" diameter paper tape and reel
1N4385GP-E3/73	0.425	73	2000	Ammo pack packaging

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

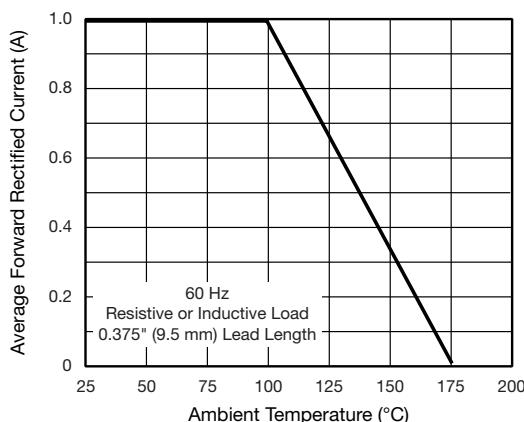


Fig. 1 - Forward Current Derating Curve

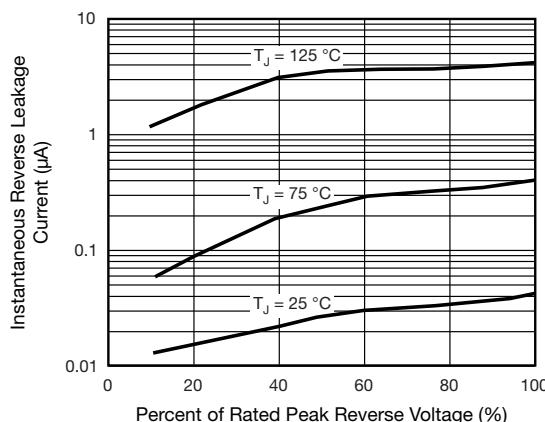


Fig. 4 - Typical Reverse Characteristics

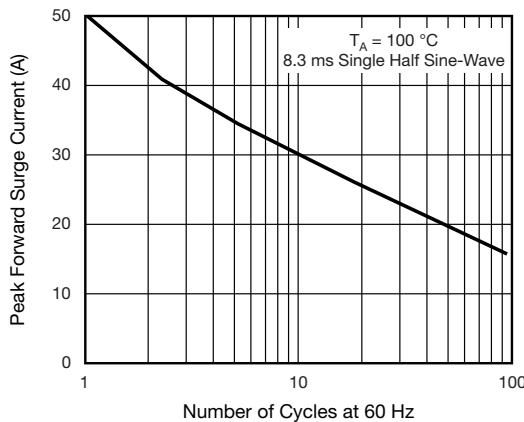


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

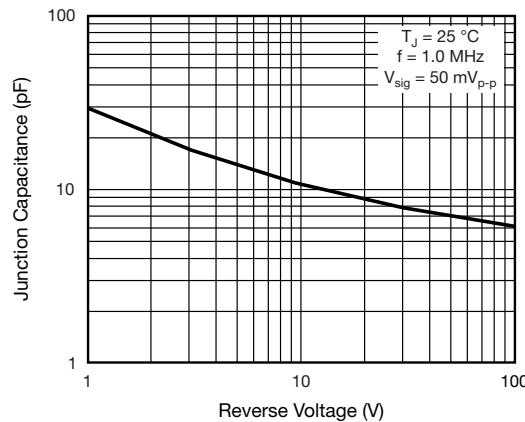


Fig. 5 - Typical Junction Capacitance

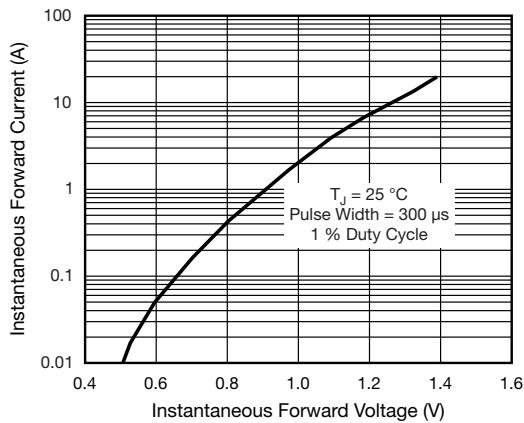


Fig. 3 - Typical Instantaneous Forward Characteristics

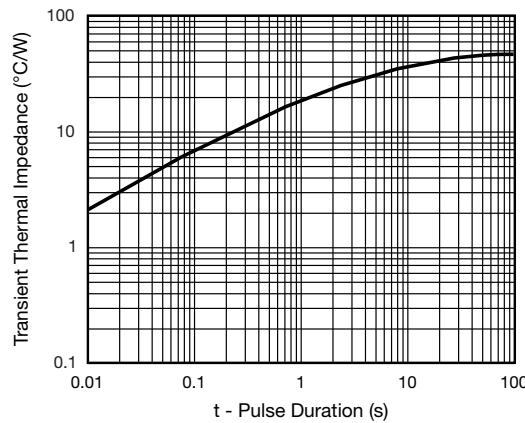
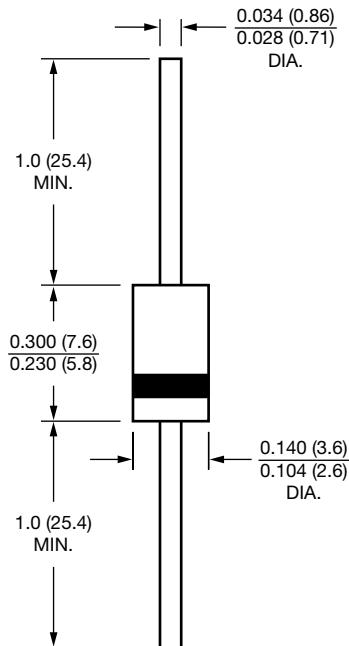


Fig. 6 - Typical Transient Thermal Impedance

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)**DO-15 (DO-204AC)**

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