

Glass Passivated Junction Plastic Rectifier


DO-204AC (DO-15)
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


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
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 μ A
V_F	1.0 V
T_J max.	175 °C
Package	DO-204AC (DO-15)
Diode variations	Single die

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted) ⁽¹⁾							
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	μ A
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175					°C

Note
⁽¹⁾ JEDEC® registered values

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)									
PARAMETER	TEST CONDITIONS		SYMBOL	1N4383GP	1N4384GP	1N4385GP	1N4585GP	1N4586GP	UNIT
Maximum instantaneous forward voltage	1.0 A		V_F	1.0					
Maximum DC reverse current at rated DC blocking voltage		$T_A = 25^\circ\text{C}$	I_R	5.0					
		$T_A = 150^\circ\text{C}$		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					
Typical junction capacitance	4.0 V, 1 MHz		C_J	15					

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	$R_{0JA}^{(1)}$	45						$^\circ\text{C/W}$

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

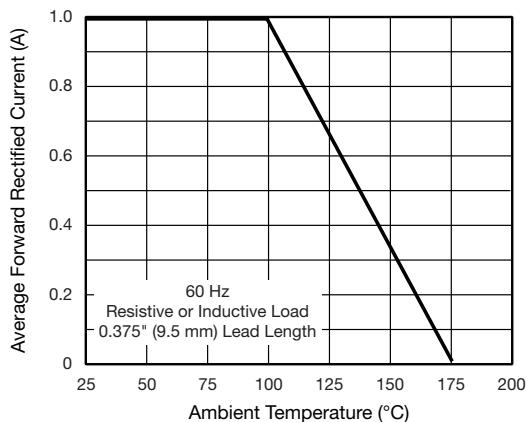
RATINGS AND CHARACTERISTICS CURVES ($T_A = 25^\circ\text{C}$ unless otherwise noted)


Fig. 1 - Forward Current Derating Curve

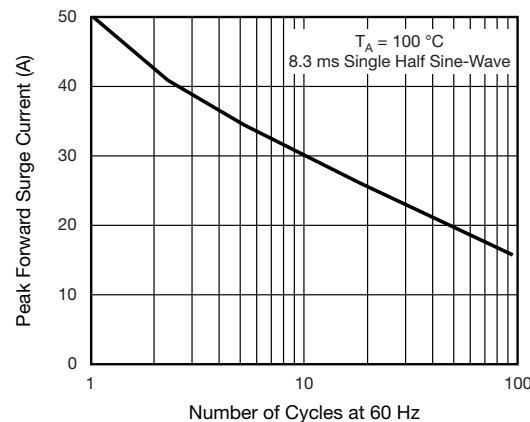
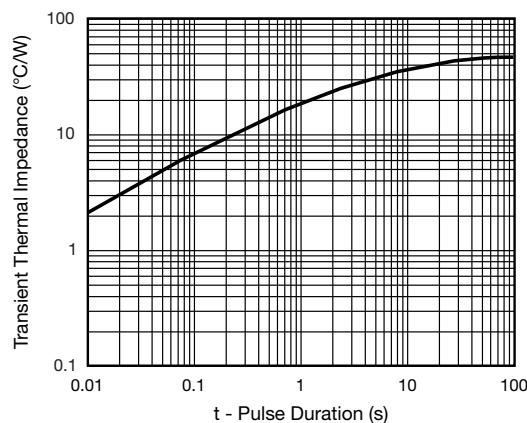
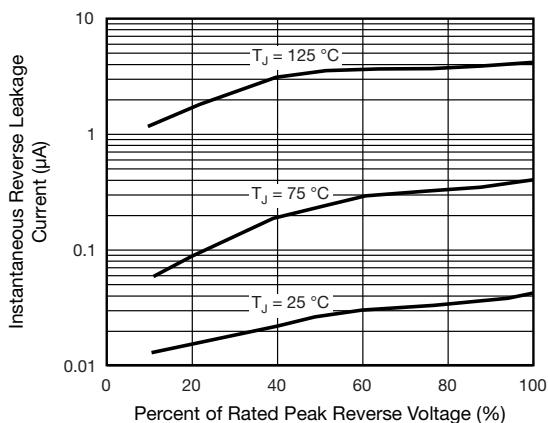
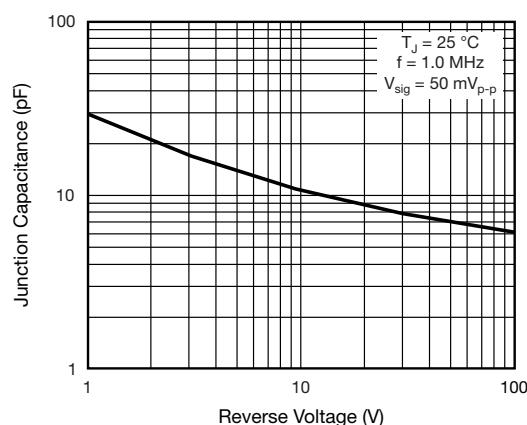
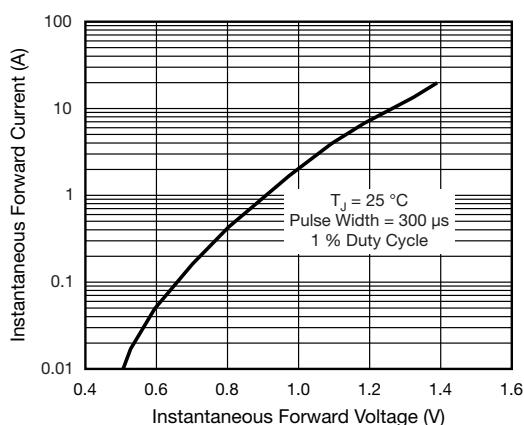
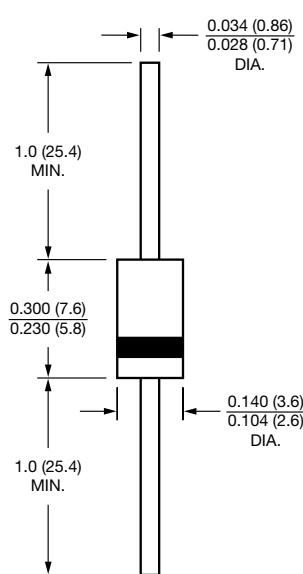


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AC (DO-15)


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