Not for New Designs

1N4383GP, 1N4384GP, 1N4385GP, 1N4585GP, 1N4586GP



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SUPERECTIFIER®

DO-15 (DO-204AC)

1.0 A

200 V, 400 V, 600 V, 800 V, 1000 V

50 A

5.0 µA

1.0 V

175 °C

DO-15 (DO-204AC)

Single

PRIMARY CHARACTERISTICS

I_{F(AV)} V_{RRM}

I_{FSM}

 I_{R}

 V_{F}

T_{.1} max.

Package

Circuit configuration

Vishay General Semiconductor

Glass Passivated Junction Plastic Rectifier



Superectifier structure for high reliability application



COMPLIANT

- · 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 <u>www.vishay.com/doc?99912</u>

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

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 $T_A = 100 ^{\circ}\text{C}$	I _{F(AV)}	1.0				А	
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 $T_A = 100 ^\circ\text{C}$	I _{R(AV)}	275	250	225	200	200	μA
Operating junction and storage temperature range	T _J , T _{STG}	-65 to +175				°C	

Note

 $^{(1)}\ \mbox{JEDEC}^{\mbox{\tiny (\sc n)}}$ registered values

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ELECTRICAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ 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		T _A = 25 °C		5.0					μA
current at rated DC blocking voltage		T _A = 150 °C	I _R	250					
Typical reverse recovery time			2.0				μs		
Typical junction capacitance	4.0 V, 1	MHz	CJ	15			pF		

Note

⁽¹⁾ JEDEC registered values

SHAY

THERMAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)							
PARAMETER	SYMBOL	1N4383GP	1N4384GP	1N4385GP	1N4585GP	1N4586GP	UNIT
Typical thermal resistance	R _{0JA} ⁽¹⁾	45 °CA				°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				

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RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)

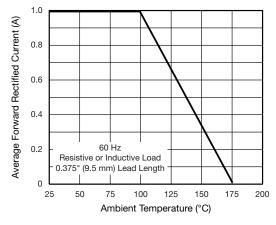


Fig. 1 - Forward Current Derating Curve

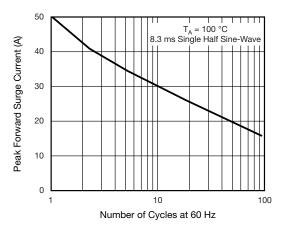


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

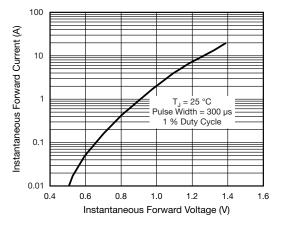


Fig. 3 - Typical Instantaneous Forward Characteristics

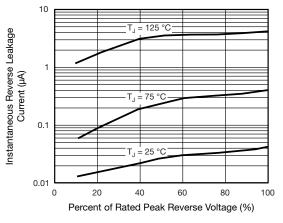


Fig. 4 - Typical Reverse Characteristics

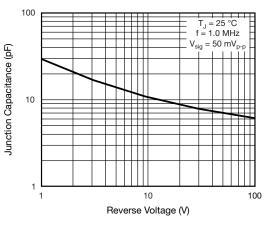


Fig. 5 - Typical Junction Capacitance

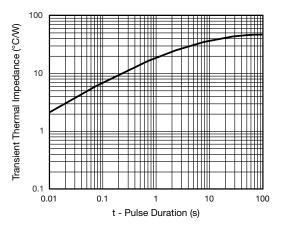


Fig. 6 - Typical Transient Thermal Impedance

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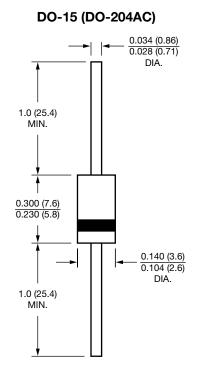
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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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