Not for New Designs

GP15A, GP15B, GP15D, GP15G, GP15J, GP15K, GP15M



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SUPERECTIFIER[®]

DO-15 (DO-204AC)

1.5 A

50 V, 100 V, 200 V, 400 V, 600 V,

800 V, 1000 V 50 A

5.0 µA

1.1 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 reliability structure for high application



COMPLIANT

- · Cavity-free glass-passivated junction
- · Low forward voltage drop
- Low leakage current, I_R less than 0.1 μA
- · 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

TYPICAL APPLICATIONS

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

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 ($T_A = 25 \text{ °C}$ unless otherwise noted)									
PARAMETER	SYMBOL	GP15A	GP15B	GP15D	GP15G	GP15J	GP15K	GP15M	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 $T_A = 55 ^{\circ}\text{C}$	I _{F(AV)}	1.5						А	
Peak forward surge current 8.3 ms single half-sine wave superimposed on rated load	I _{FSM}	50					А		
Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length at $T_A = 55$ °C	I _{R(AV)}	100					μA		
Operating junction and storage temperature range	T _J , T _{STG}	-65 to +175					°C		

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ELECTRICAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)											
PARAMETER	TEST CONDITIONS		SYMBOL	GP15A	GP15B	GP15D	GP15G	GP15J	GP15K	GP15M	UNIT
Maximum instantaneous forward voltage	1.5 A		V _F	1.1						V	
Maximum reverse		T _A = 25 °C	1-	5.0							μA
blocking voltage		T _A = 150 °C	I _R	200							
Typical reverse recovery time	I _F = 0.5 I _{rr} = 0.2	A, I _R = 1.0 V, 5 A	t _{rr}	3.5				μs			
Typical junction capacitance	4.0 V, 1	MHz	CJ	15					pF		

THERMAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted)									
PARAMETER	SYMBOL	YMBOL GP15A GP15B GP15D GP15G GP15J GP15K GP15M U					UNIT		
Typical thermal resistance	R _{0JA} ⁽¹⁾	45							
$R_{\theta JL}^{(1)}$ 20							°C/W		

Note

⁽¹⁾ Thermal resistance from junction to ambient and from junction to lead 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					
GP15J-E3/54	0.425	54	4000	13" diameter paper tape and reel					
GP15J-E3/73	0.425	73	2000	Ammo pack packaging					



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

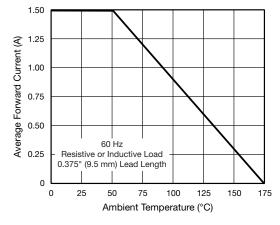


Fig. 1 - Forward Current Derating Curve

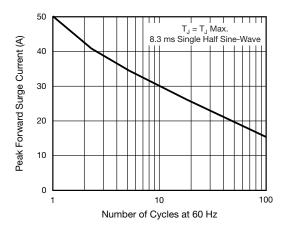


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

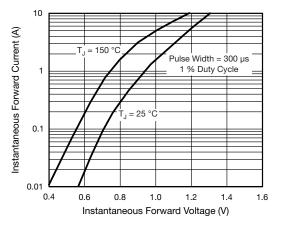


Fig. 3 - Typical Instantaneous Forward Characteristics

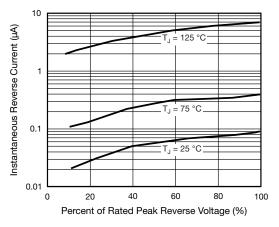


Fig. 4 - Typical Reverse Characteristics

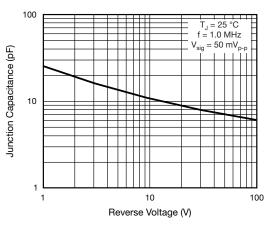


Fig. 5 - Typical Junction Capacitance

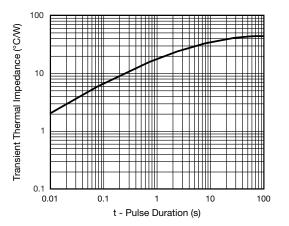


Fig. 6 - Typical Transient Thermal Impedance

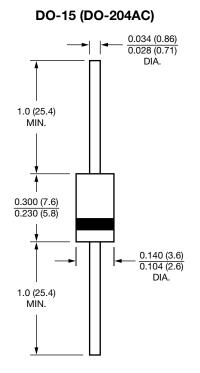
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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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