

3A, 200V - 600V Glass Passivated High Efficient Rectifier

FEATURES

- Glass passivated chip junction
- High current capability, Low V_F
- Negligible leakage current
- High reliability
- High surge current capability
- Low power loss, high efficiency
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- TV
- Monitor

MECHANICAL DATA

- Case: DO-201AD
- Molding compound meets UL 94V-0 flammability rating
- Packing code with suffix "G" means green compound (halogen-free)
- Part no. with suffix "H" means AEC-Q101 qualified
- Terminal: Pure tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Weight: 1.1 g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	3	A
V_{RRM}	200 - 600	V
$T_{J\ MAX}$	150	°C
Package	DO-201AD	
Configuration	Single Die	



DO-201AD

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	HER3L03G	HER3L05G	HER3L06G	UNIT
Marking code on the device		HER3L03G	HER3L05G	HER3L06G	
Repetitive peak reverse voltage	V_{RRM}	200	400	600	V
Reverse voltage, total rms value	$V_{R(RMS)}$	140	280	420	V
Forward current	$I_{F(AV)}$	3			A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	125		100	A
Junction temperature	T_J	- 55 to +150			°C
Storage temperature	T_{STG}	- 55 to +150			°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\theta JL}$	19	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	44	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	20	°C/W

Thermal Performance Note: Units mounted on recommended PCB (16mm x 16mm Cu pad test board)

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

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	HER3L03G	I _F =1.5A, T _J = 25°C	V _F	0.83	1.00	V
		I _F =3A, T _J =25°C		0.89	1.30	V
		I _F =1.5A, T _J = 125°C		0.67	0.83	V
		I _F =3A, T _J = 125°C		0.74	0.90	V
	HER3L05G	I _F =1.5A, T _J = 25°C		0.85	1.02	V
		I _F =3A, T _J =25°C		0.91	1.32	V
		I _F =1.5A, T _J = 125°C		0.69	0.85	V
		I _F =3A, T _J = 125°C		0.76	0.92	V
	HER3L06G	I _F =1.5A, T _J = 25°C		0.84	1.05	V
		I _F =3A, T _J =25°C		0.90	1.7	V
		I _F =1.5A, T _J = 125°C		0.69	0.80	V
		I _F =3A, T _J = 125°C		0.76	0.88	V
Reverse current @ rated V _R per diode ⁽²⁾	HER3L03G	T _J = 25°C	I _R	-	3	μA
		T _J = 150°C		-	100	μA
	HER3L05G	T _J = 25°C		-	5	μA
		T _J = 150°C		-	200	μA
	HER3L06G	T _J = 25°C		-	10	μA
		T _J = 150°C		-	300	μA
Junction capacitance	HER3L03G	1 MHz, V _R =4V	C _J	54	-	pF
	HER3L05G				-	pF
	HER3L06G			49	-	pF
Reverse recovery time	HER3L03G	I _F =0.5A, I _R =1.0A I _{RR} =0.25A	t _{rr}	-	50	ns
	HER3L05G			-		ns
	HER3L06G			-	75	ns

Notes:

1. Pulse test with $PW=0.3\text{ ms}$
2. Pulse test with $PW=30\text{ ms}$

ORDERING INFORMATION

PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
HER3L0xG (Note 1, 2)	H	A0	G	DO-201AD	500 / Ammo box
		R0		DO-201AD	1,250 / 13" Paper reel
		B0		DO-201AD	500 / Bulk packing
		X0		DO-201AD	Forming

Notes:

- "x" defines voltage from 200V (HER3L03G) to 600V (HER3L06G)
- Whole series with green compound (halogen-free)

EXAMPLE P/N

EXAMPLE P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
HER3L03GHA0G	HER3L03G	H	A0	G	AEC-Q101 qualified Green compound

CHARACTERISTICS CURVES

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

Fig1. Forward Current Derating Curve

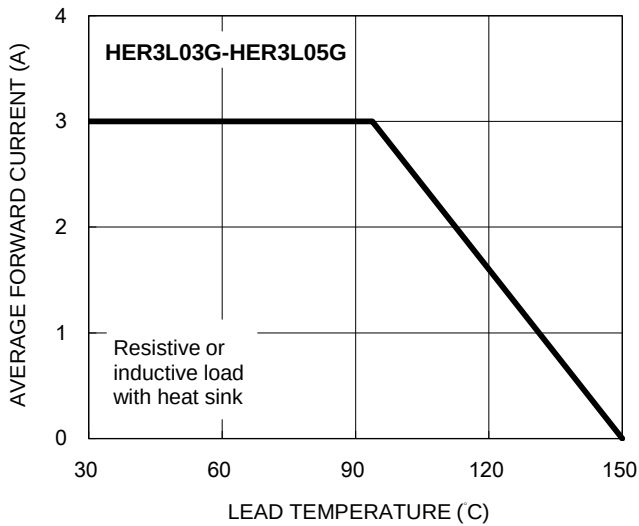


Fig2. Typical Junction Capacitance

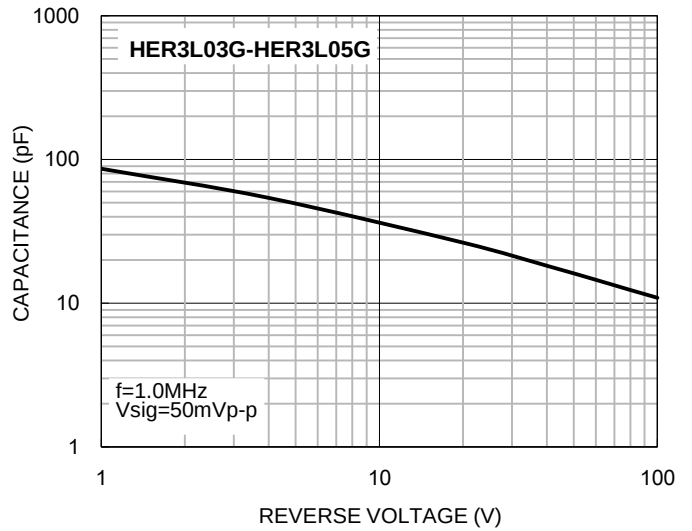


Fig3. Typical Reverse Characteristics

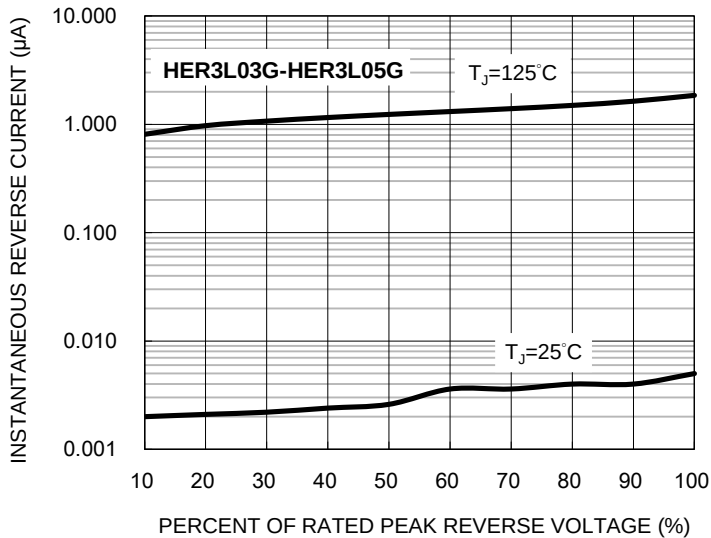
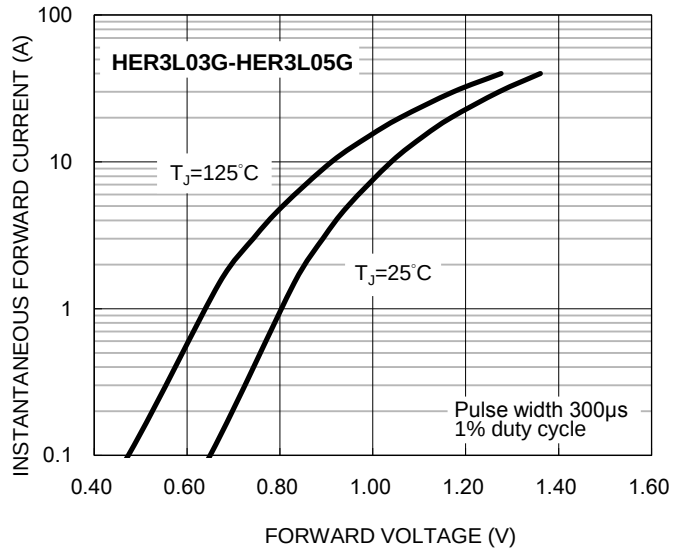


Fig4. Typical Forward Characteristics



CHARACTERISTICS CURVES

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

Fig1. Forward Current Derating Curve

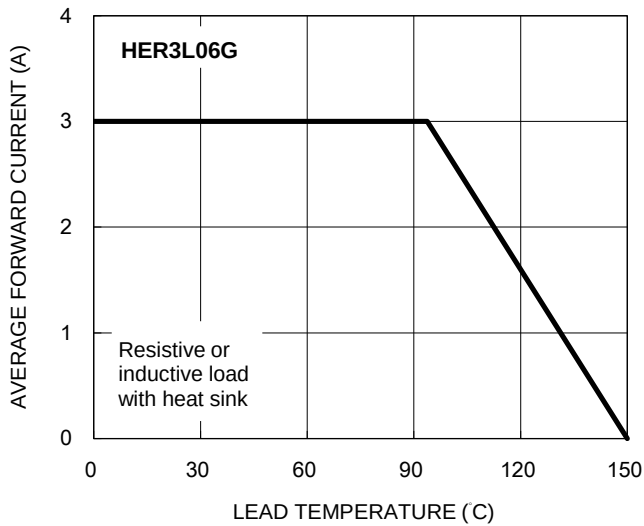


Fig2. Typical Junction Capacitance

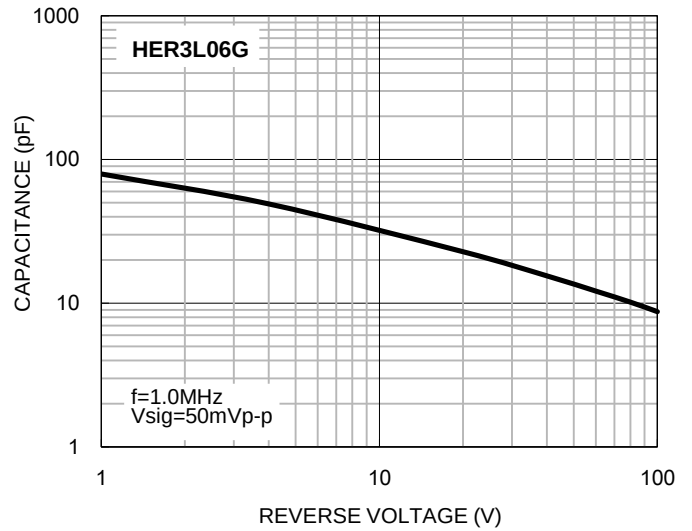


Fig3. Typical Reverse Characteristics

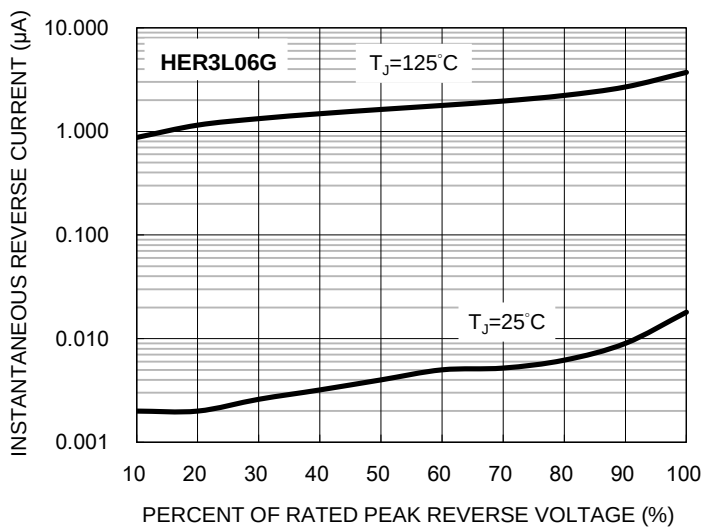
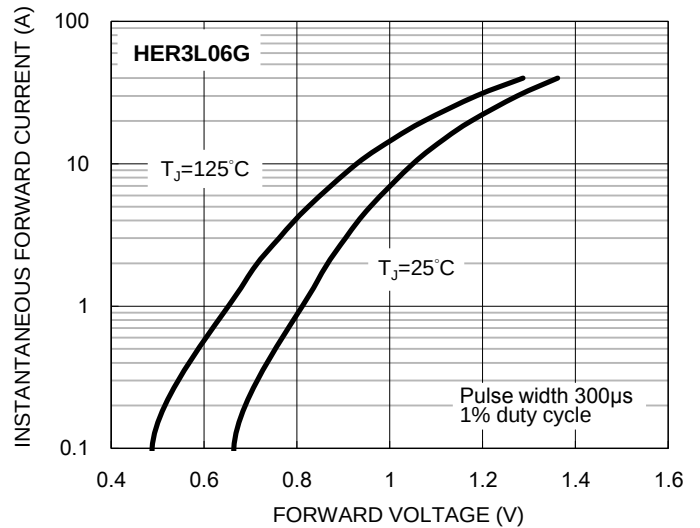
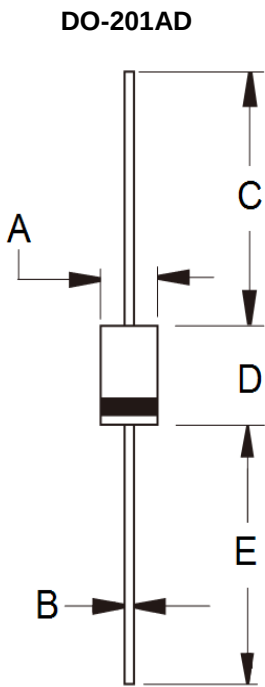


Fig4. Typical Forward Characteristics

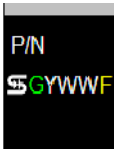


PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	5.00	5.60	0.197	0.220
B	1.20	1.30	0.048	0.052
C	25.40	-	1.000	-
D	8.50	9.50	0.335	0.375
E	25.40	-	1.000	-

MARKING DIAGRAM



P/N =Marking Code
G =Green Compound
YWW =Date Code
F =Factory Code

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