3A, 50V - 1000V Glass Passivated High Efficient Rectifier

FEATURES

- Glass passivated chip junction
- High current capability, Low V_F
- 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

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
$I_{F(AV)}$	3	A
V_{RRM}	50 - 1000	V
$T_{J\ MAX}$	150	°C
Package	DO-201AD	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE

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)
- Terminal: Pure tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: As marked
- Weight: 1.1 g (approximately)

DO-201AD

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	HER 301 G-K	HER 302 G-K	HER 303 G-K	HER 304 G-K	HER 305 G-K	HER 306 G-K	HER 307 G-K	HER 308 G-K	UNIT
Marking code on the device		HER 301G	HER 302G	HER 303G	HER 304G	HER 305G	HER 306G	HER 307G	HER 308G	
Repetitive peak reverse voltage	V_{RRM}	50	100	200	300	400	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	35	70	140	210	280	420	560	700	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								A
Junction temperature	T_J	- 55 to +150								°C
Storage temperature	T_{STG}	- 55 to +150								°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	LIMIT	UNIT
Junction-to-lead thermal resistance per diode	$R_{\Theta JL}$	10	°C/W
Junction-to-ambient thermal resistance per diode	$R_{\Theta JA}$	35	°C/W

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode (1)	HER301G-K HER302G-K HER303G-K HER304G-K	I_F=3A, T_J=25°C	V_F	-	1.0	V
	HER305G-K			-	1.3	V
	HER306G-K HER307G-K HER308G-K			-	1.7	V
Reverse current @ rated V_R per diode (2)		T_J = 25°C	I_R	-	10	μA
		T_J = 125°C		-	200	μA
Junction capacitance	HER301G-K HER302G-K HER303G-K HER304G-K HER305G-K	1 MHz, V_R=4V	C_J	60	-	pF
	HER306G-K HER307G-K HER308G-K			35	-	pF
Reverse recovery time	HER301G-K HER302G-K HER303G-K HER304G-K HER305G-K	I_F=0.5A, I_R=1.0A I_{RR}=0.25A	t_{rr}	-	50	ns
	HER306G-K HER307G-K HER308G-K			-	75	ns

Notes:

1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 ms

ORDERING INFORMATION

PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
HER30xG-K (Note 1, 2)	A0	G	DO-201AD	500 / Ammo box
	R0		DO-201AD	1,250 / 13" Paper reel
	B0		DO-201AD	500 / Bulk packing

Notes:

1. "x" defines voltage from 50V (HER301G-K) to 1000V (HER308G-K)
2. Whole series with green compound (halogen-free)

EXAMPLE P/N

EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
HER301G-K A0G	HER301G-K	A0	G	Green compound

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

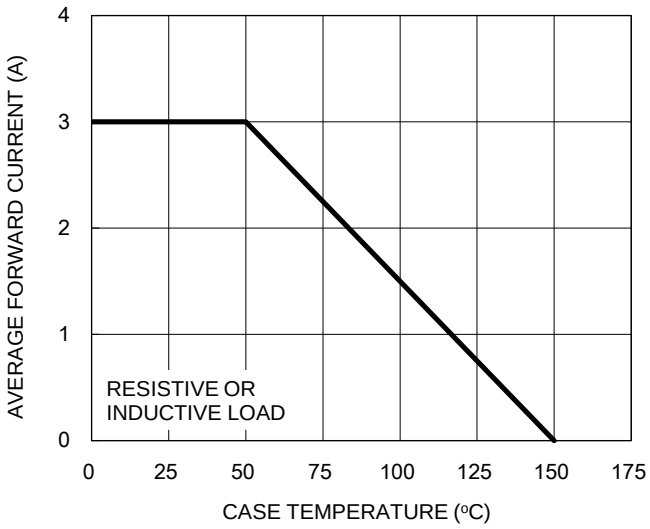


Fig.2 Typical Junction Capacitance

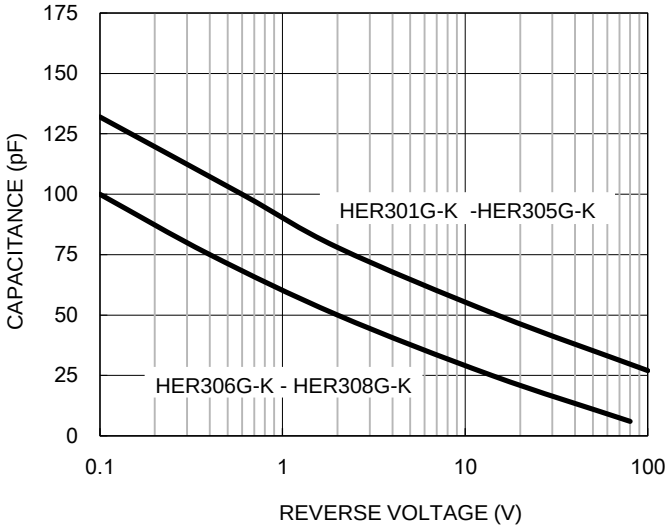


Fig.3 Typical Reverse Characteristics

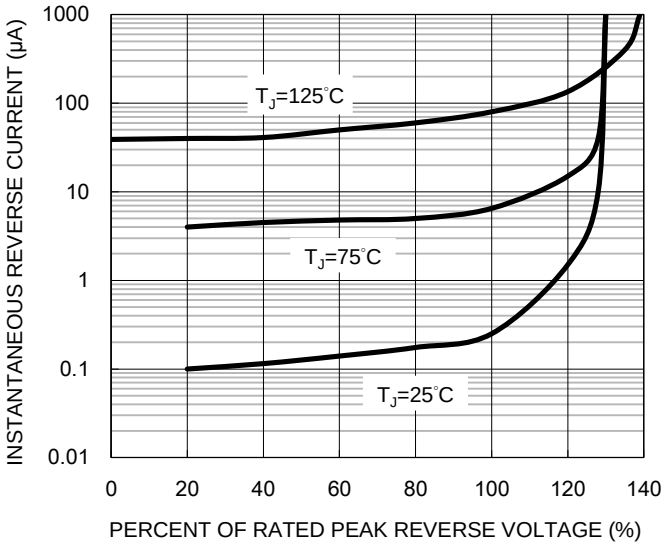
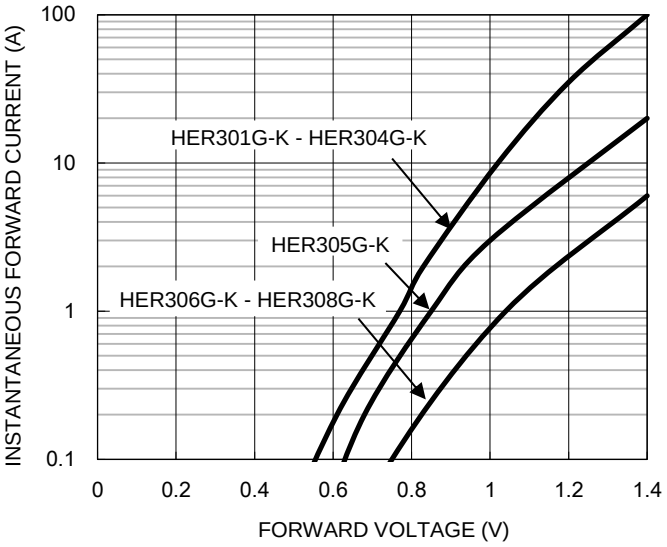


Fig.4 Typical Forward Characteristics



CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.5 Maximum Non-repetitive Forward Surge Current

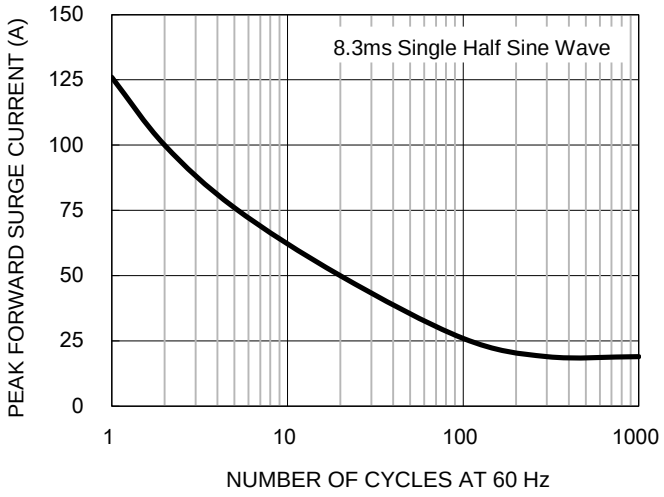
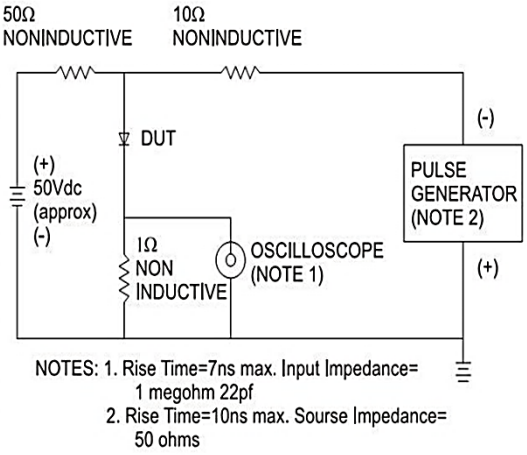
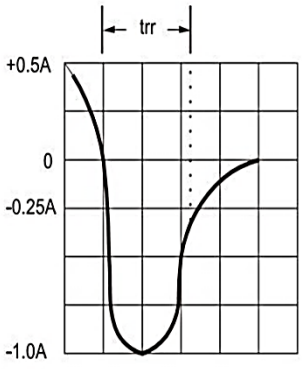


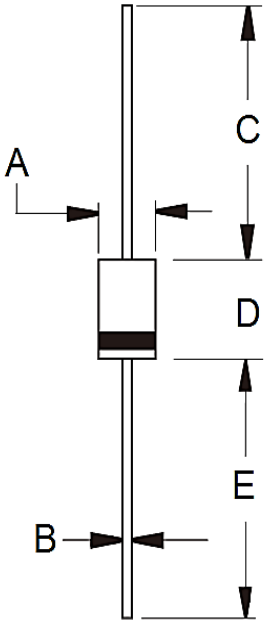
Fig.6 Reverse Recovery Time Characteristic And Test Circuit Diagram





PACKAGE OUTLINE DIMENSIONS

DO-201AD



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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