High Efficient Surface Mount Rectifiers

FEATURES

- Glass passivated junction chip.
- Ideal for automated placement
- Fast switching for high efficiency
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



DO-214AC(SMA)

Pb-Free

RoHS COMPLIANT

MECHANICAL DATA

Case：DO-214AC(SMA)

Molding compound, UL flammability classification rating 94V-0
Base P/N with suffix "G" on packing code - halogen-free, RoHS compliant

Terminal：Matte tin plated leads, solderable per JESD22-B102
Meet JESD 201 class 1A whisker test

Polarity：Indicated by cathode band

Weight：0.064 gram (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERSTICS (T_A=25℃ unless otherwise noted)			
PARAMETER	SYMBOL	BYG23M	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	1000	V
Maximum RMS voltage	V_{RMS}	700	V
Maximum DC blocking voltage	V_{DC}	1000	V
Maximum average forward rectified current	$I_{F(AV)}$	1	A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	30	A
Maximum instantaneous forward voltage (Note 1) @ 1.5 A	V_F	1.7	V
Maximum reverse current @ rated VR T_J=25 ℃ T_J=100℃ T_J=125 ℃	I_R	5 50 150	μA
Pulse energy in avalanche mode, non repetitive (Inductive load switch off) T_A=25℃, L=120mH	E_{RSM}	20	mJ
Maximum reverse recovery time (Note 2)	Trr	75	nS
Typical junction capacitance (Note 3)	Cj	15	pF
Typical thermal resistance	$R_{\theta JA}$	70	^{O}C/W
Operating junction temperature range	T_J	- 55 to + 150	^{O}C
Storage temperature range	T_{STG}	- 55 to + 150	^{O}C

Note 1: Pulse Test with PW=300 usec, 1% Duty Cycle

Note 2: Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0Volts.

ORDERING INFORMATION				
PART NO.	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
BYG23M	E2	Suffix "G"	Clip SMA	7500 / 13" Plastic reel
	E3		Clip SMA	1800 / 7" Plastic reel

EXAMPLE				
PREFERRED P/N	PART NO.	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
BYG23M E2	BYG23M	E2		
BYG23M E2G	BYG23M	E2	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

(TA=25℃ unless otherwise noted)

FIG.1- MAXIMUM AVERAGE FORWARD CURRENT DERATING

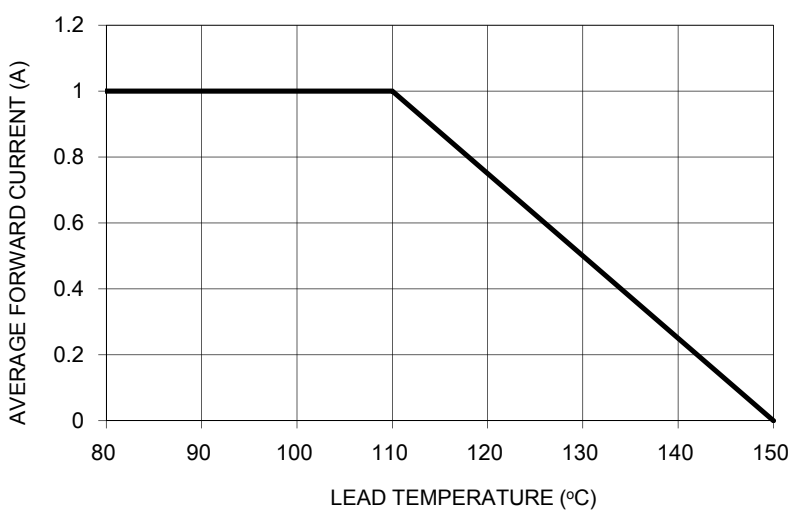


FIG. 2- TYPICAL REVERSE CHARACTERISTICS

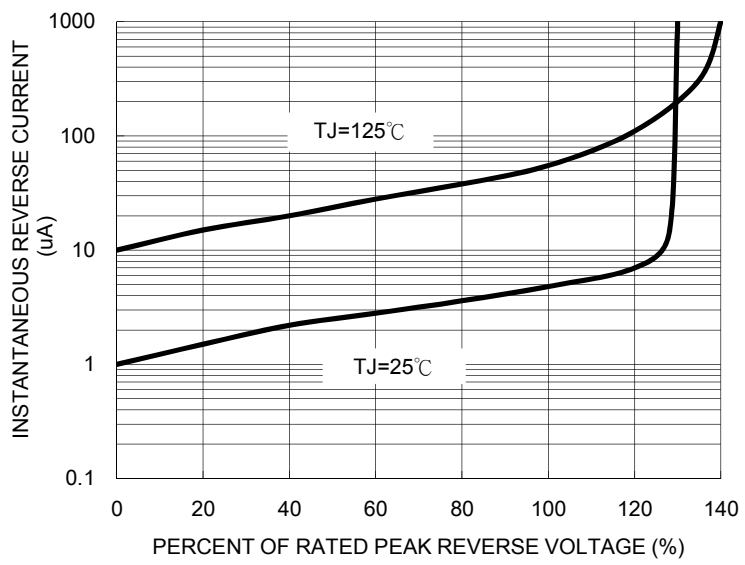


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

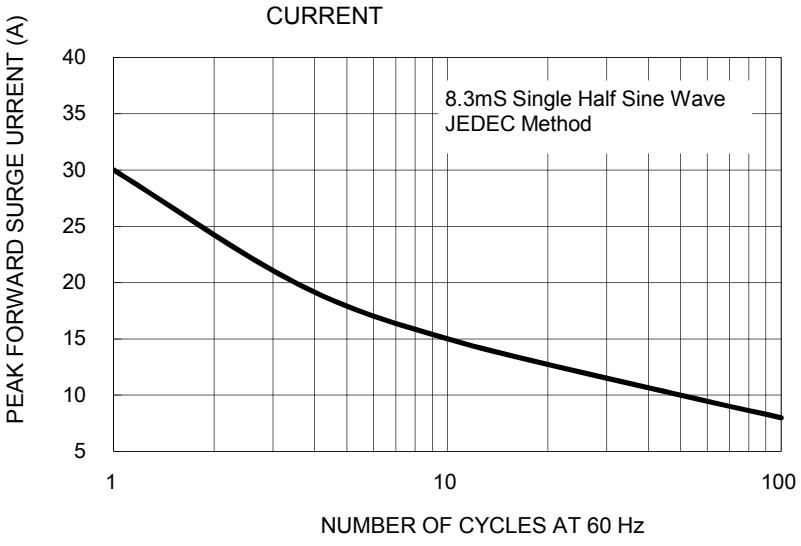


FIG. 4- TYPICAL JUNCTION CAPACITANCE

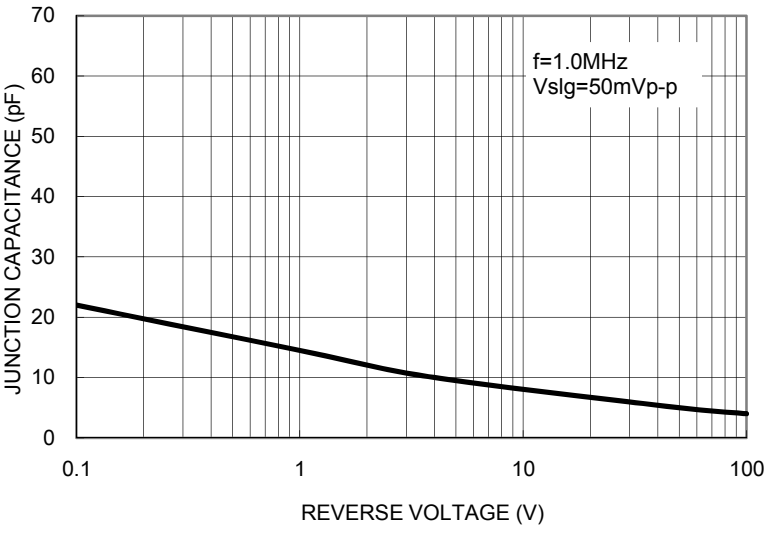


FIG. 5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

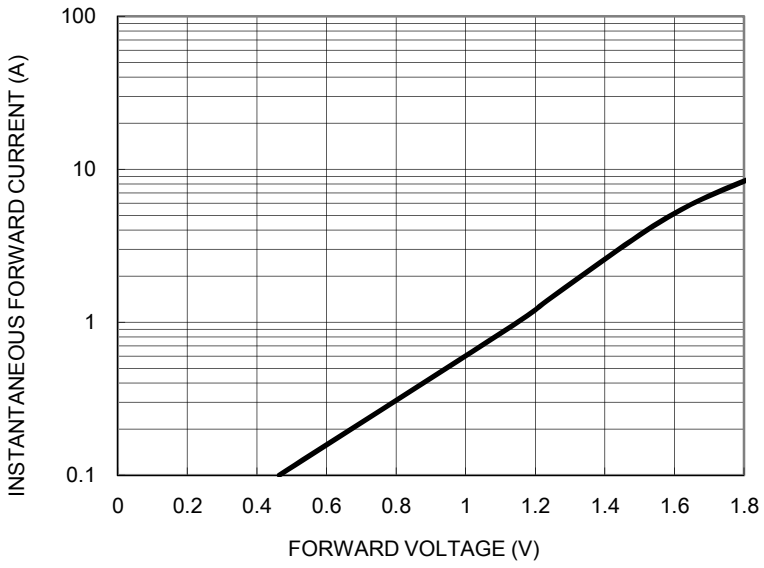
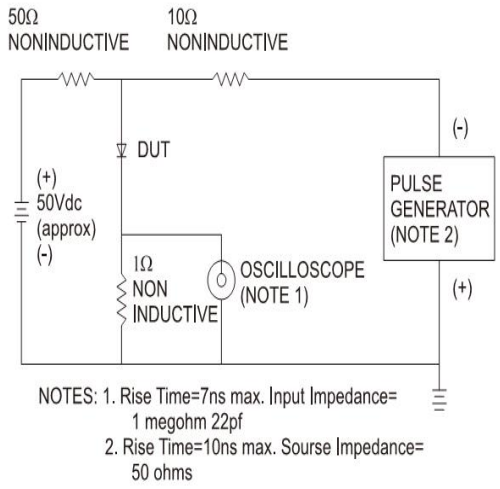
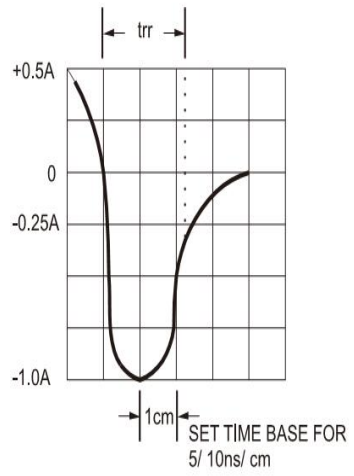
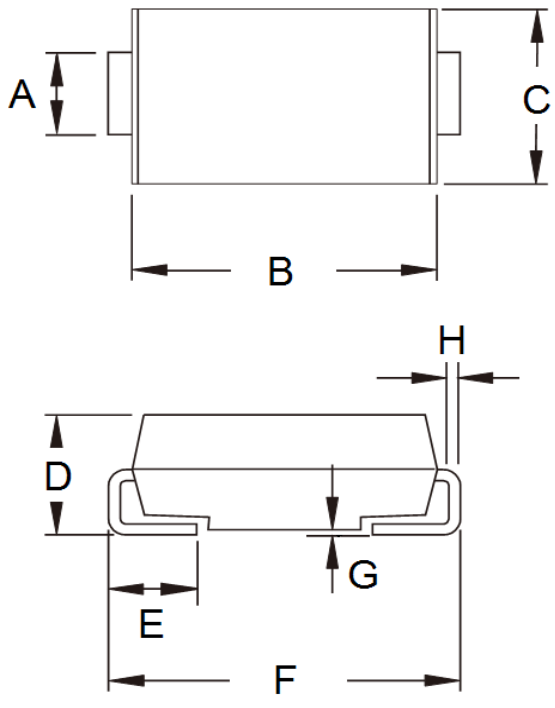


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



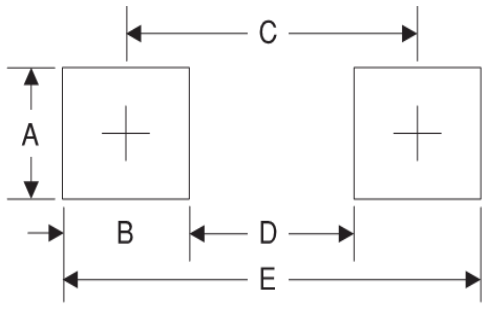


PACKAGE OUTLINE DIMENSIONS



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	1.27	1.58	0.050	0.062
B	4.06	4.60	0.160	0.181
C	2.29	2.83	0.090	0.111
D	1.99	2.50	0.078	0.098
E	0.90	1.41	0.035	0.056
F	4.95	5.33	0.195	0.210
G	0.10	0.20	0.004	0.008
H	0.15	0.31	0.006	0.012

SUGGESTED PAD LAYOUT



Symbol	Unit(mm)
A	1.68
B	1.52
C	3.93
D	2.41
E	5.45

MARKING DIAGRAM



P/N = Specific Device Code
G = Green Compound
YW = Date Code
F = Factory Code