

1.5A, 200V - 600V High Efficient Surface Mount Rectifiers

FEATURES

- Glass passivated junction chip
- Ideal for automated placement
- Fast switching for high efficiency
- High surge current capability
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21







DO-214AC (SMA)

MECHANICAL DATA

Case: DO-214AC (SMA)

Molding compound: UL flammability classification rating 94V-0

Part No. with suffix "H" means AEC-Q101 qualified

Packing code with suffix "G" means green compound (halogen-free)

Moisture sensitivity level: level 1, per J-STD-020

Terminal: Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 2 whisker test **Polarity:** Indicated by cathode band **Weight:** 0.064 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)						
PARAMETER	SYMBOL	BYG20D	BYG20G	BYG20J	UNIT	
Maximum repetitive peak reverse voltage	V_{RRM}	200	400	600	V	
Maximum RMS voltage	V_{RMS}	140	280	420	V	
Maximum DC blocking voltage		V _{DC}	200	400	600	V
Maximum average forward rectified current	I _{F(AV)}	1.5		Α		
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load		I _{FSM}	30		А	
Maximum instantaneous forward voltage (Note 1)	I _F =1.0A I _F =1.5A	V _F		1.3 1.4		V
Maximum reverse current @ rated V_R T_J =25°C T_J =100°C		I _R	1 10		μΑ	
Pulse energy in avalanche mode, non repetitive (Inductive load switch off), L=120mH		E _{RSM}	20		mJ	
Maximum reverse recovery time (Note 2)		t _{rr}	75		ns	
Typical thermal resistance (Note 3)		$R_{\theta JL}$	25		°C/W	
		$R_{\theta JA}$	100]	
Operating junction temperature range		T _J	- 55 to +150		°C	
Storage temperature range		T _{STG}	- 55 to +150		°C	

Note 1: Pulse test with PW=300µs, 1% duty cycle

Note 2: Reverse recovery test conditions: I_F =0.5A, I_R =1.0A, I_{RR} =0.25A

Note 3: Mount on PC board with 5mm x 5mm copper pads as heatsink.



DART NO	PART NO. PACKING PACKING CODE	DACKACE	DACKING		
PART NO.	SUFFIX	CODE	SUFFIX	PACKAGE	PACKING
BYG20x (Note 1)	R3	G	SMA	1,800 / 7" Plastic reel	
	R2		SMA	7,500 / 13" Paper reel	
	M2		SMA	7,500 / 13" Plastic reel	
	F3		Folded SMA	1,800 / 7" Plastic reel	
	F2		Folded SMA	7,500 / 13" Paper reel	
	F4		Folded SMA	7,500 / 13" Plastic reel	

Note 1: "x" defines voltage from 200V (BYG20D) to 600V (BYG20J)

EXAMPLE					
EXAMPLE PART NO.	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
BYG20DHR3G	BYG20D	н	R3	G	AEC-Q101 qualified Green compound

RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

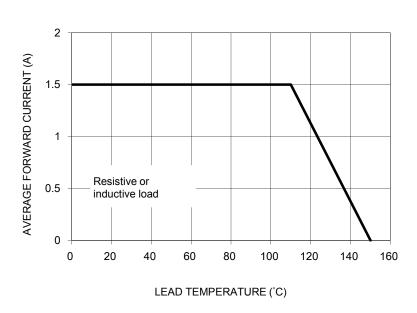


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

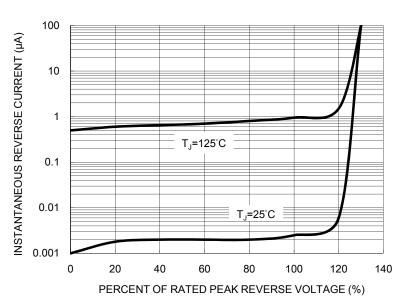


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

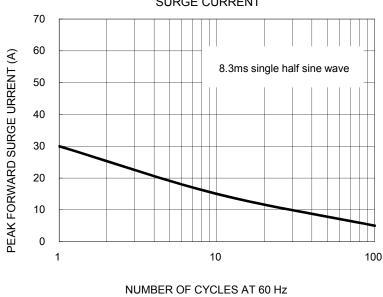
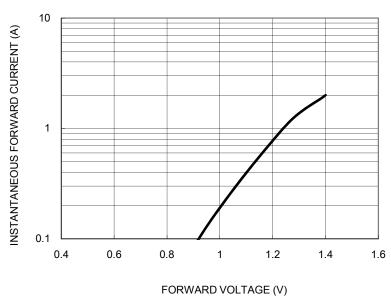


FIG. 4 TYPICAL FORWARD CHARACTERISTICS



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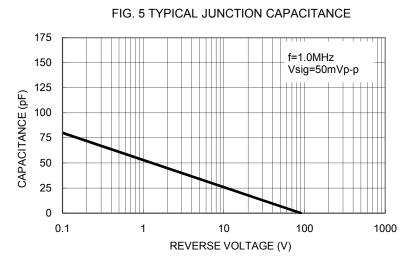
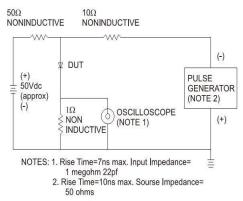
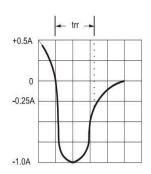
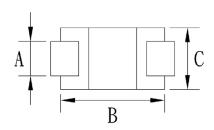


FIG.6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM





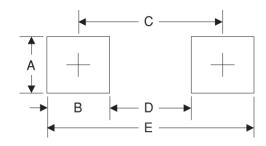
PACKAGE OUTLINE DIMENSIONS DO-214AC (SMA)



		Н
D	T	
	E G F	

DIM.	Unit	(mm)	Unit (inch)		
DIIVI.	Min	Max	Min	Max	
Α	1.27	1.58	0.050	0.062	
В	4.06	4.60	0.160	0.181	
С	2.29	2.83	0.090	0.111	
D	1.99	2.50	0.078	0.098	
Е	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	
Н	0.15	0.31	0.006	0.012	

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
Α	1.68	0.066
В	1.52	0.060
С	3.93	0.155
D	2.41	0.095
E	5.45	0.215

MARKING DIAGRAM



P/N = Specific Device Code G = Green Compound

YW = Date Code F = Factory Code



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