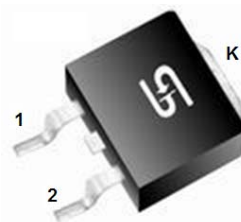


## Surface Mount Super Fast Rectifiers

### FEATURES

- Low forward voltage drop
- Ideal for automated placement
- High current capability
- 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



### MECHANICAL DATA

**Case:** TO-263AB (D<sup>2</sup>PAK)

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - green compound (halogen-free)

Base P/N with prefix "H" on packing code - AEC-Q101 qualified

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

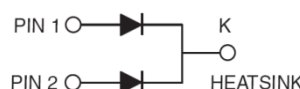
Meet JESD 201 class 1A whisker test

with prefix "H" on packing code meet JESD 201 class 2 whisker test

**Polarity:** As marked

**Weight:** 1.37 g (approximately)

**TO-263AB (D<sup>2</sup>PAK)**



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

PARAMETER	SYMBOL	SFS	SFS	SFS	SFS	SFS	SFS	SFS	SFS	Unit	
		1001	1002	1003	1004	1005	1006	1007	1008		
		G	G	G	G	G	G	G	G		
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	150	200	300	400	500	600	V	
Maximum RMS voltage	V <sub>RMS</sub>	35	70	105	140	210	280	350	420	V	
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	150	200	300	400	500	600	V	
Maximum average forward rectified current	I <sub>F(AV)</sub>	10								A	
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	125								A	
Maximum instantaneous forward voltage (Note 1) I <sub>F</sub> = 5 A	V <sub>F</sub>	0.975			1.3		1.7			V	
Maximum reverse current @ rated VR T <sub>J</sub> =25 °C T <sub>J</sub> =125 °C	I <sub>R</sub>	1 200								μA	
Maximum reverse recovery time (Note 2)	T <sub>rr</sub>	35								ns	
Typical junction capacitance (Note 3)	C <sub>j</sub>	70			50						pF
Typical thermal resistance	R <sub>θJC</sub>	2								°C/W	
Operating junction temperature range	T <sub>J</sub>	- 55 to +150								°C	
Storage temperature range	T <sub>STG</sub>	- 55 to +150								°C	

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

Note 2: Reverse Recovery Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

ORDERING INFORMATION					
PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
SFS100xG (Note 1)	Prefix "H"	RN C0	Suffix "G"	D <sup>2</sup> PAK D <sup>2</sup> PAK	800 / 13" Paper reel 50 / Tube

Note 1: "x" defines voltage from 50V (SFS1001G) to 600V (SFS1008G)

EXAMPLE					
PREFERRED P/N	PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
SFS1008G RN	SFS1008G		RN		
SFS1008G RNG	SFS1008G		RN	G	Green compound
SFS1008GHRN	SFS1008G	H	RN		AEC-Q101 qualified

**RATINGS AND CHARACTERISTICS CURVES**

(TA=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

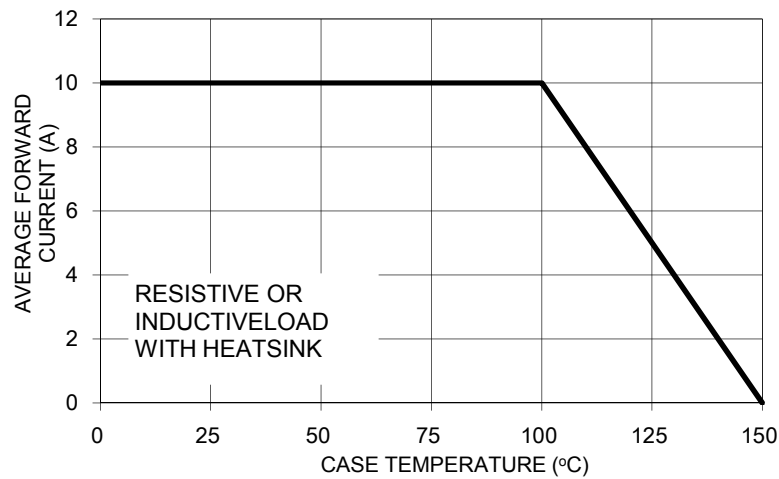


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

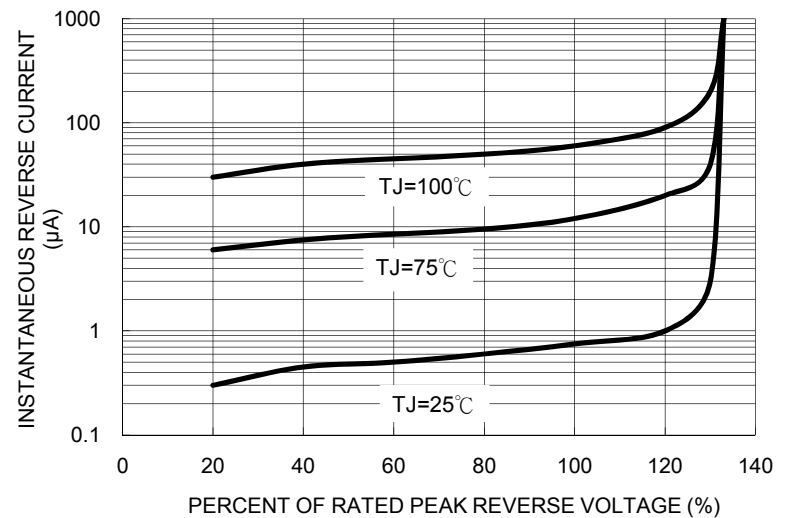


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

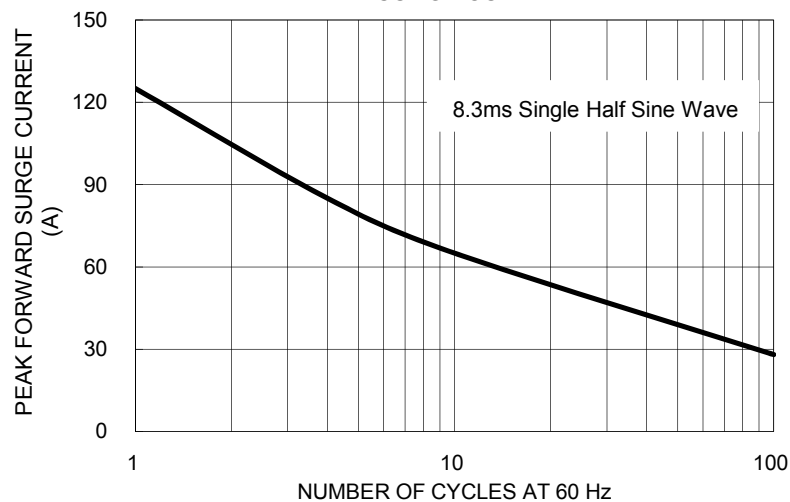
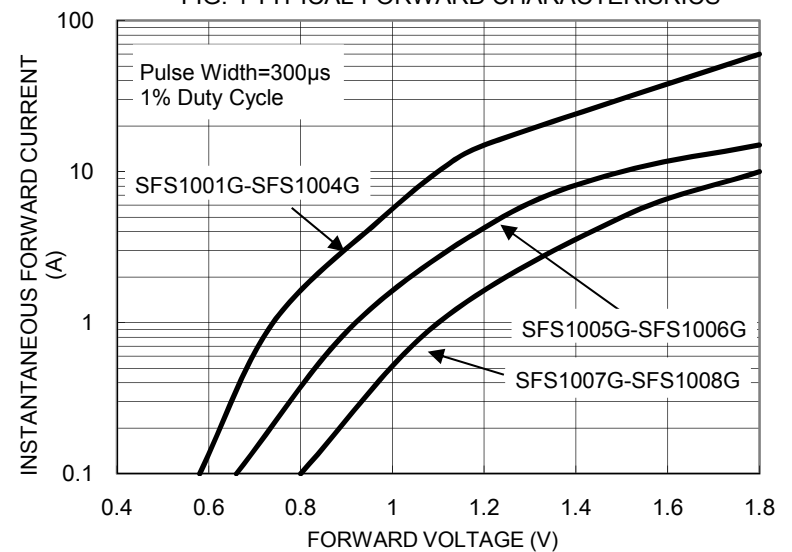
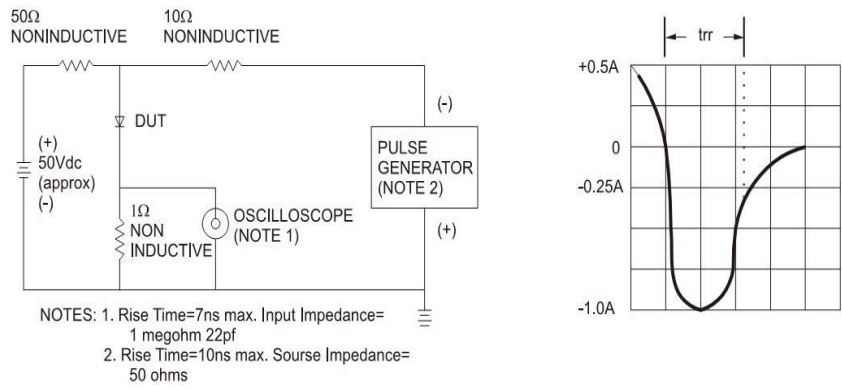


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

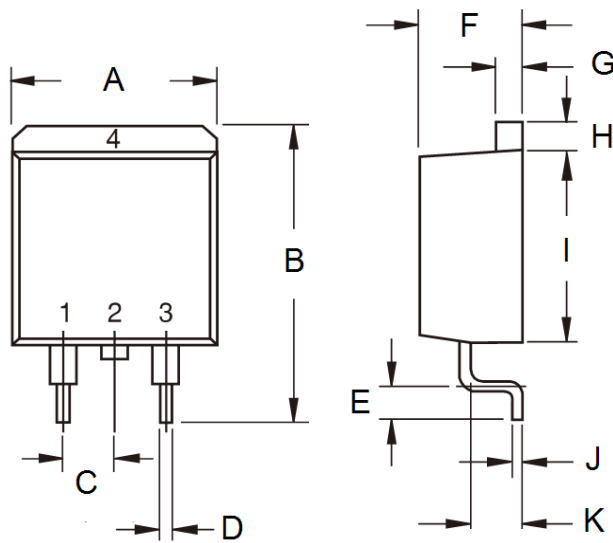




**FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**

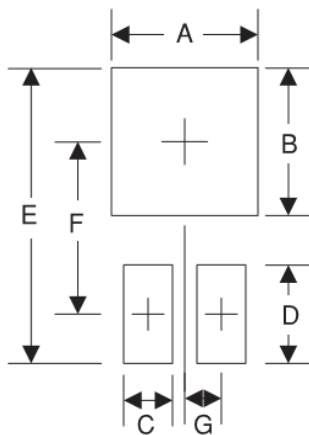


**PACKAGE OUTLINE DIMENSIONS**



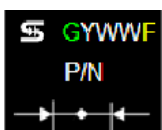
DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	-	10.5	-	0.413
B	14.60	15.88	0.575	0.625
C	2.41	2.67	0.095	0.105
D	0.68	0.94	0.027	0.037
E	2.29	2.79	0.090	0.110
F	4.44	4.70	0.175	0.185
G	1.14	1.40	0.045	0.055
H	1.14	1.40	0.045	0.055
I	8.25	9.25	0.325	0.364
J	0.36	0.53	0.014	0.021
K	2.03	2.79	0.080	0.110

**SUGGESTED PAD LAYOUT**



Symbol	Unit (mm)	Unit (inch)
A	10.8	0.425
B	8.3	0.327
C	1.1	0.043
D	3.5	0.138
E	16.9	0.665
F	9.5	0.374
G	2.5	0.098

**MARKING DIAGRAM**



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

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