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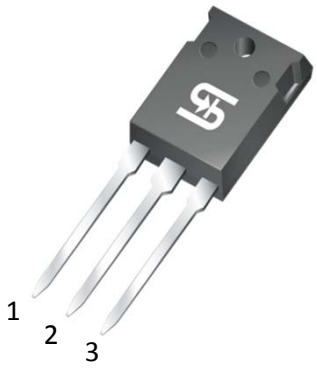
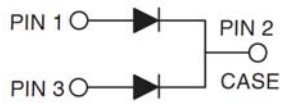
16A, 50V - 600V Glass Passivated Super Fast Rectifiers

FEATURES

- Dual rectifier construction, positive center-tap
- Glass passivated chip junctions
- Superfast recovery time, high voltage
- Low forward voltage, high current capability
- Low thermal resistance
- Low power loss, high efficiency
- UL Recognized File # E-326243
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21



TO-247AD (TO-3P)



Pb-Free

RoHS COMPLIANT

MECHANICAL DATA

Case: TO-247AD (TO-3P)

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)

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

Meet JESD 201 class 2 whisker test

Polarity: As marked

Mounting torque: 1.13 Nm max.

Weight: 5.6g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	SF 1601 PT	SF 1602 PT	SF 1603 PT	SF 1604 PT	SF 1605 PT	SF 1606 PT	SF 1607 PT	SF 1608 PT	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	150	200	300	400	500	600	V
Maximum RMS voltage	V_{RMS}	35	70	105	140	210	280	350	420	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	300	400	500	600	V
Maximum average forward rectified current	$I_{F(AV)}$	16								A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	150								A
Maximum instantaneous forward voltage (Note 1) I_F= 8 A	V_F	0.95				1.3		1.7		V
Maximum reverse current @ rated V_R T_J=25°C	I_R	10								μA
T_J=125°C		500								
Maximum reverse recovery time (Note 2)	t_{rr}	35								ns
Typical junction capacitance (Note 3)	C_J	85								pF
Typical thermal resistance	$R_{\theta JC}$	2								°C/W
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=300 μs, 1% duty cycle

Note 2: Test conditions: I_F=0.5A, I_R=1.0A, recover to 0.25A.

Note 3: Measured at 1 MHz and applied reverse voltage of 4.0V DC.

ORDERING INFORMATION					
PART NO.	**PART NO. SUFFIX**	**PACKING CODE**	**PACKING CODE SUFFIX (*)**	**PACKAGE**	**PACKING**
SF16xxPT (Note 1)	H	C0	G	TO-3P	50 / Tube

Note 1: "xx" defines voltage from 50V (SF1601PT) to 600V (SF1608PT)

*: Optional available

EXAMPLE					
EXAMPLE P/N	**PART NO.**	**PART NO. SUFFIX**	**PACKING CODE**	**PACKING CODE SUFFIX**	**DESCRIPTION**
SF1606PTHC0G	SF1606PT	H	C0	G	AEC-Q101 qualified Green compound

RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

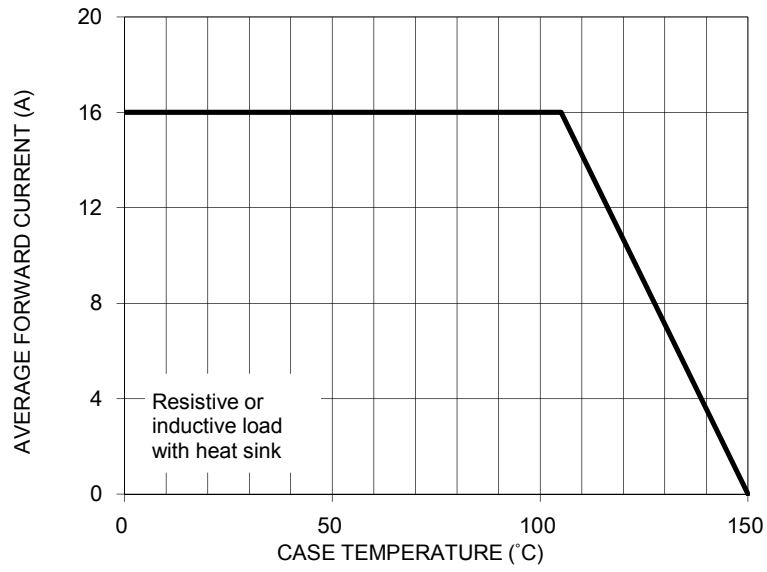


FIG. 2 TYPICAL INSTANEOUS FORWARD CHARACTERISTICS PER LEG

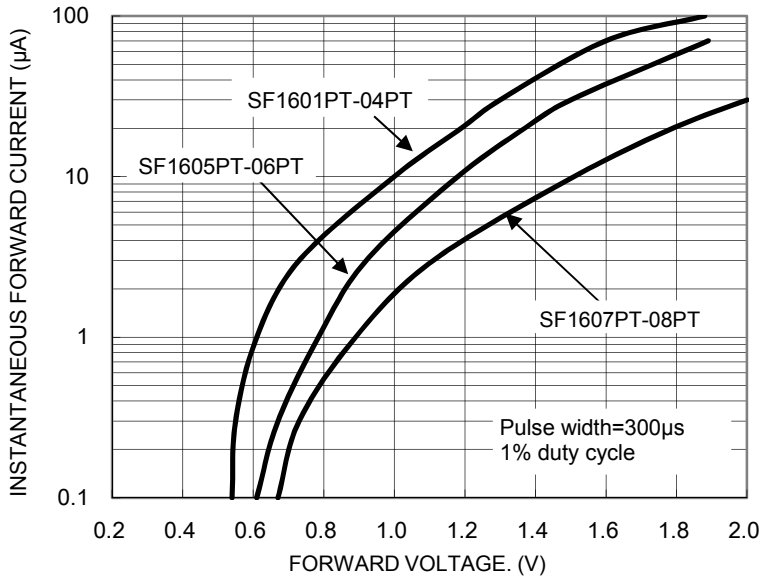


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

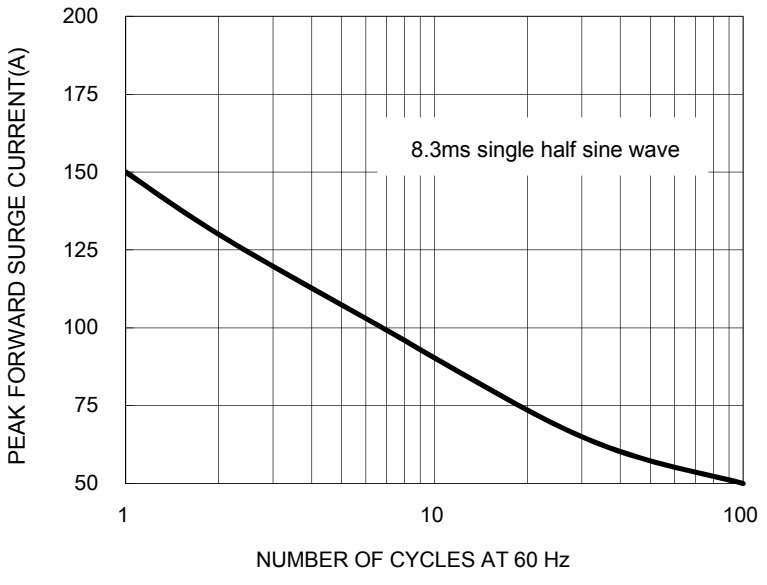


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

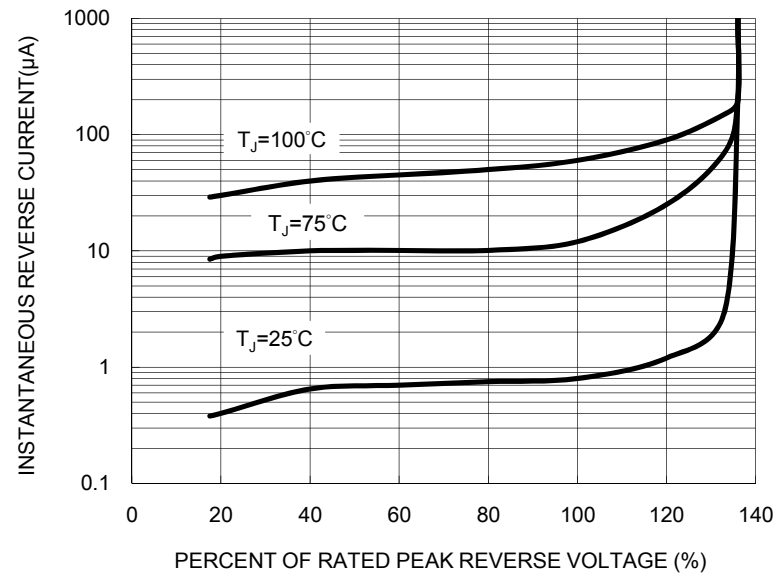


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

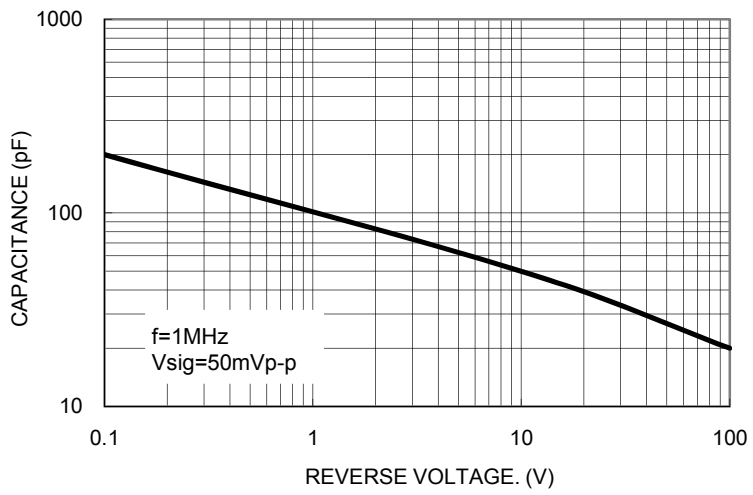
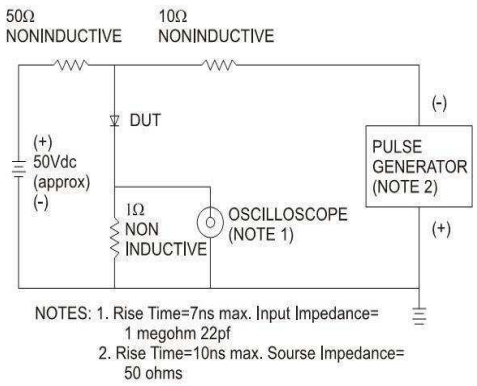
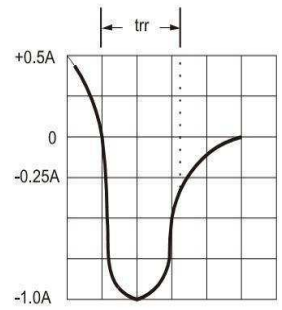


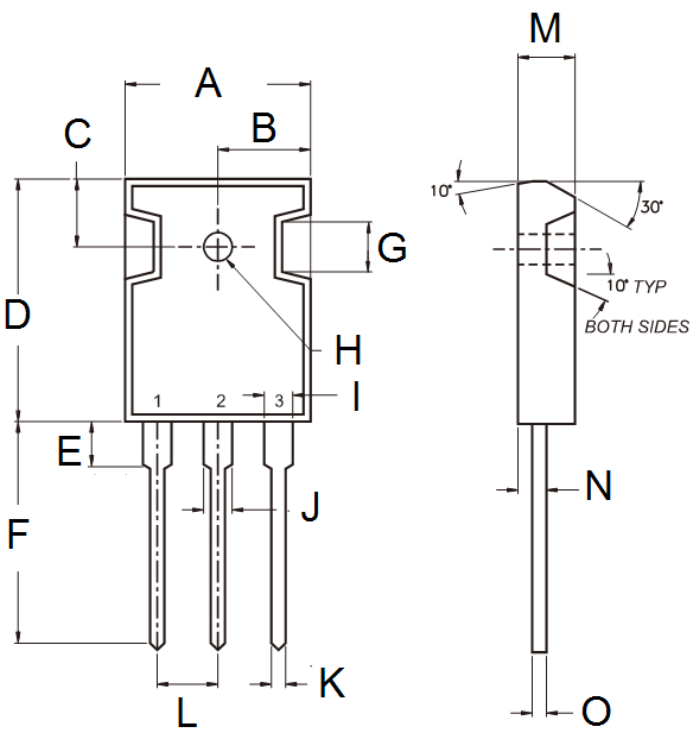
FIG.6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM





PACKAGE OUTLINE DIMENSIONS

TO-247AD (TO-3P)



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	15.90	16.40	0.626	0.646
B	7.90	8.20	0.311	0.323
C	5.70	6.20	0.224	0.244
D	20.80	21.30	0.819	0.839
E	3.50	4.10	0.138	0.161
F	19.70	20.20	0.776	0.795
G	-	4.30	-	0.169
H	2.90	3.40	0.114	0.134
I	1.93	2.18	0.076	0.086
J	2.97	3.22	0.117	0.127
K	1.12	1.22	0.044	0.048
L	5.20	5.70	0.205	0.224
M	4.90	5.16	0.193	0.203
N	2.70	3.00	0.106	0.118
O	0.51	0.76	0.020	0.030

MARKING DIAGRAM

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

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