

## Silicon Rectifiers

### FEATURES

- High efficiency, Low VF
- High current capability
- High surge current capability
- Low power loss
- 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:** DO-204AC (DO-15)

Molding compound, UL flammability classification rating 94V-0

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

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

Meet JESD 201 class 1A whisker test

**Weight:** 0.4g (approximately)

**DO-204AC (DO-15)**

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	1N 5391	1N 5392	1N 5393	1N 5395	1N 5397	1N 5398	1N 5399	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward rectified current	$I_{F(AV)}$				1.5				A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$				50				A
Maximum instantaneous forward voltage (Note 1) @ 1.5 A	$V_F$	1.1			1.0				V
Maximum reverse current @ rated VR $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	$I_R$			5		50			$\mu\text{A}$
Typical junction capacitance (Note 2)	$C_J$			50					pF
Typical thermal resistance	$R_{\theta JC}$ $R_{\theta JL}$ $R_{\theta JA}$			5		12		60	$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$			- 55 to +150					$^\circ\text{C}$
Storage temperature range	$T_{STG}$			- 55 to +150					$^\circ\text{C}$

Note 1: Pulse test with  $PW=300\ \mu\text{s}$ , 1% duty cycle

Note 2: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

ORDERING INFORMATION				
PART NO.	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
1N539x (Note 1)	A0	Suffix "G"	DO-15	1,500 / Ammo box
	R0		DO-15	3,500 / 13" Paper reel
	B0		DO-15	1,000 / Bulk packing

Note 1: "x" defines voltage from 50V (1N5391) to 1000V (1N5399)

EXAMPLE				
PREFERRED P/N	PART NO.	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
1N5391 A0	1N5391	A0		
1N5391 A0G	1N5391	A0	G	Green compound

### RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

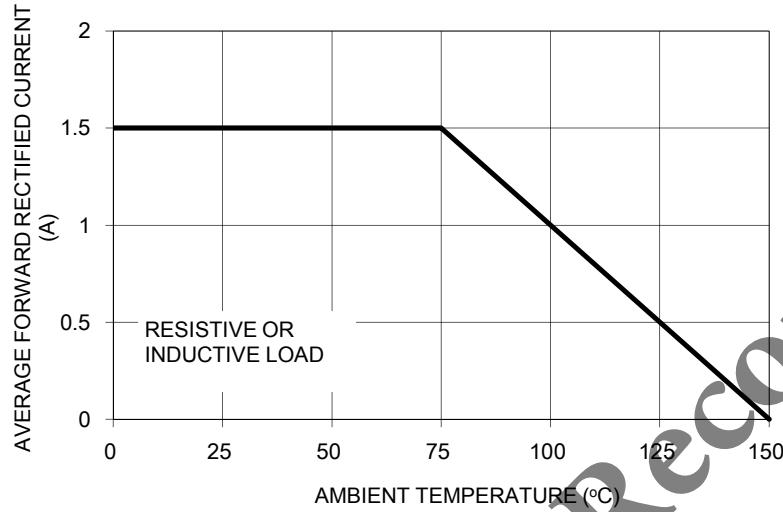


FIG. 2- TYPICAL REVERSE CHARACTERISTICS

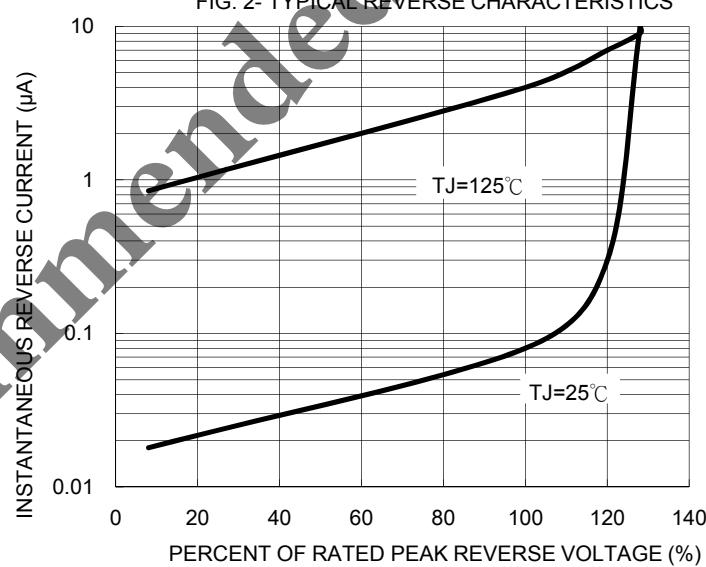


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

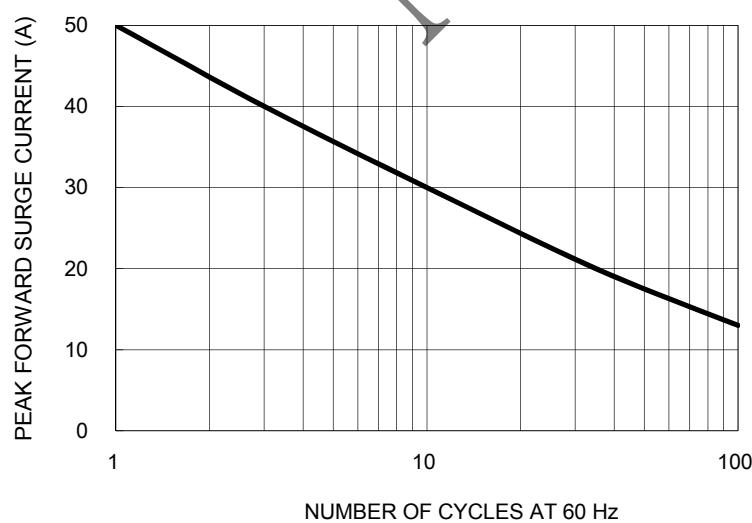


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

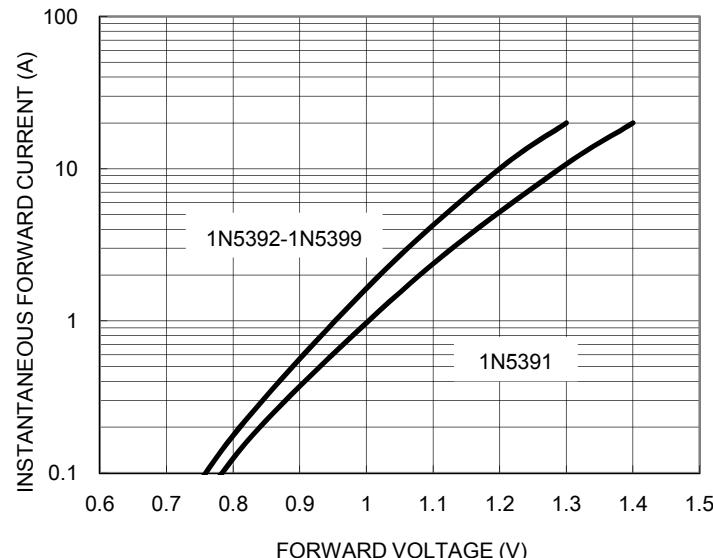
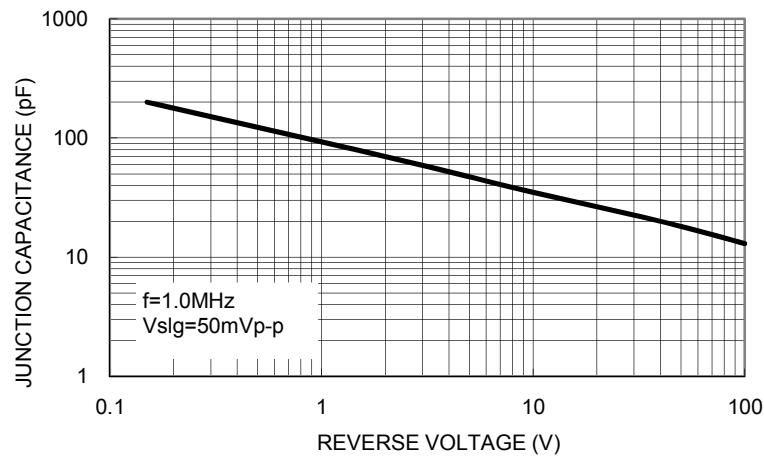
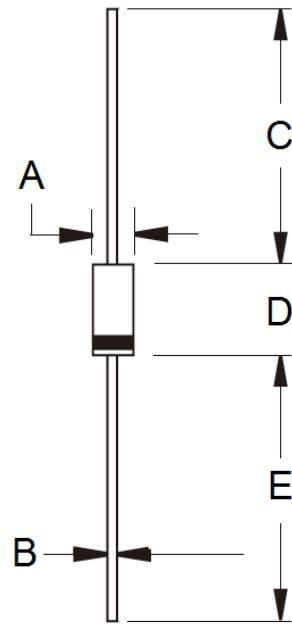


FIG. 5 TYPICAL JUNCTION CAPACITANCE



PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	2.60	3.60	0.102	0.142
B	0.70	0.90	0.028	0.035
C	25.40	-	1.000	-
D	5.80	7.60	0.228	0.299
E	25.40	-	1.000	-

MARKING DIAGRAM



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

Not Recommended

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