

1N5391G THRU 1N5399G

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1N5391G THRU 1N5399G

1.5A Axial Leaded General Purpose Rectifiers 50V-1000V

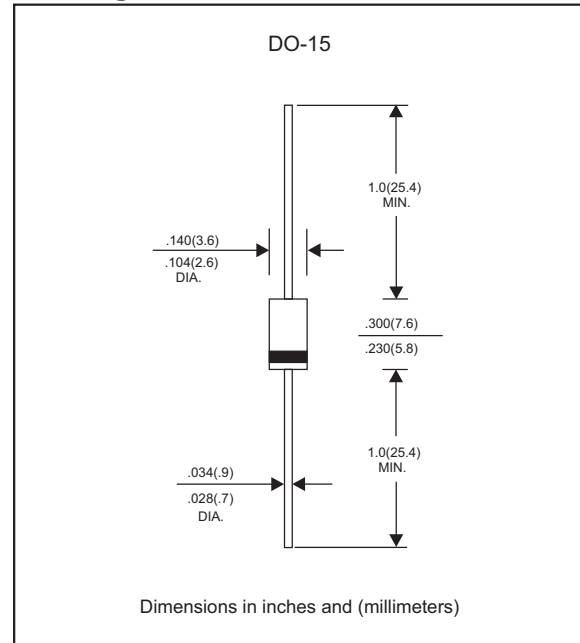
Features

- Axial lead type devices for through hole design
- High current capability
- High surge capability
- Glass passivation junction chip inside
- Lead free parts meet RoHS requirements
- Suffix "-H" indicates Halogen-free parts, ex. 1N5391G-H

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, DO-15
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting Position : Any
- Weight : Approximated 0.40 gram

Package outline



Maximum ratings and Electrical characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I_O			1.5	A
Forward surge current	8.3ms single half sine-wave (JEDEC method)	I_{FSM}			50	A
Reverse current	$V_R = V_{RRM} \quad T_J = 25^{\circ}\text{C}$	I_R			5.0	μA
	$V_R = V_{RRM} \quad T_J = 125^{\circ}\text{C}$				50	
Thermal resistance	Junction to ambient	$R_{\theta JA}$		50		$^{\circ}\text{C/W}$
Diode junction capacitance	$f=1\text{MHz}$ and applied 4V DC reverse voltage	C_J		20		pF
Storage temperature		T_{STG}	-65		+175	$^{\circ}\text{C}$

SYMBOLS	V_{RRM}^{*1} (V)	V_{RMS}^{*2} (V)	V_R^{*3} (V)	V_F^{*4} (V)	Operating temperature $T_J, (^{\circ}\text{C})$
1N5391G	50	35	50	1.10	-55 to +150
1N5392G	100	70	100		
1N5393G	200	140	200		
1N5395G	400	280	400		
1N5397G	600	420	600		
1N5398G	800	560	800		
1N5399G	1000	700	1000		

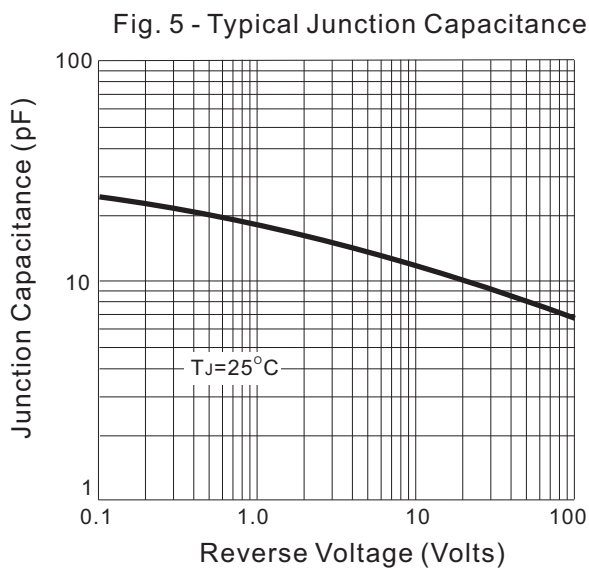
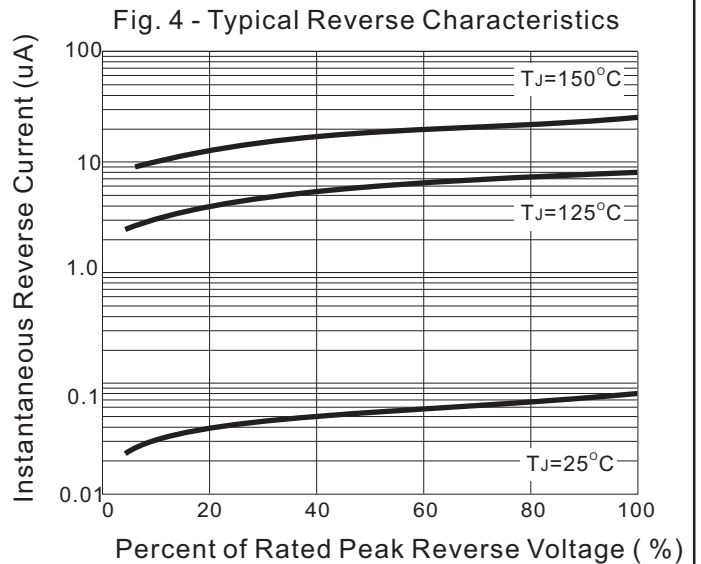
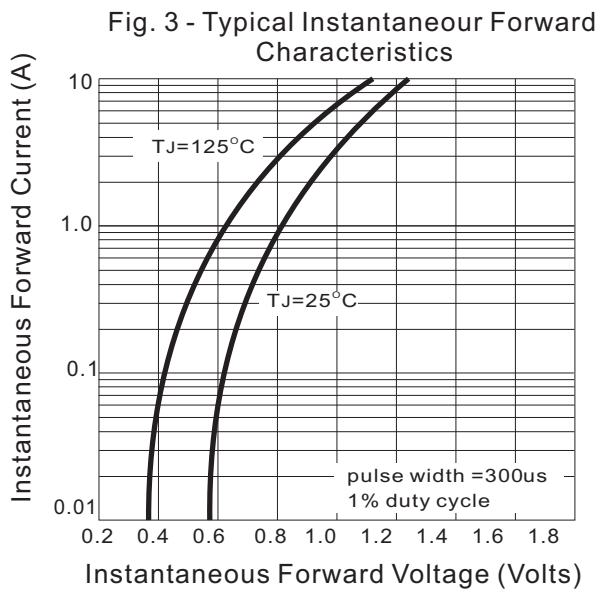
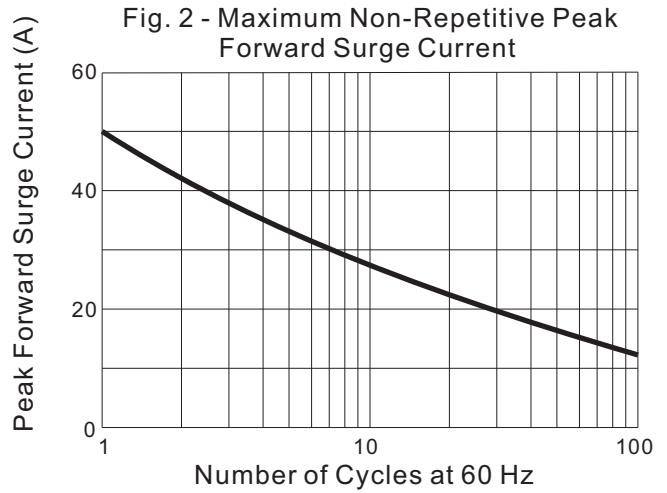
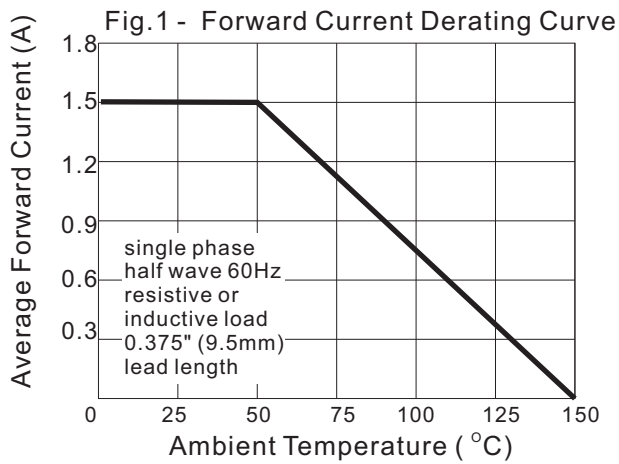
*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@ $I_F=1.5\text{A}$

Rating and characteristic curves (1N5391G THRU 1N5399G)



1N5391G THRU 1N5399G

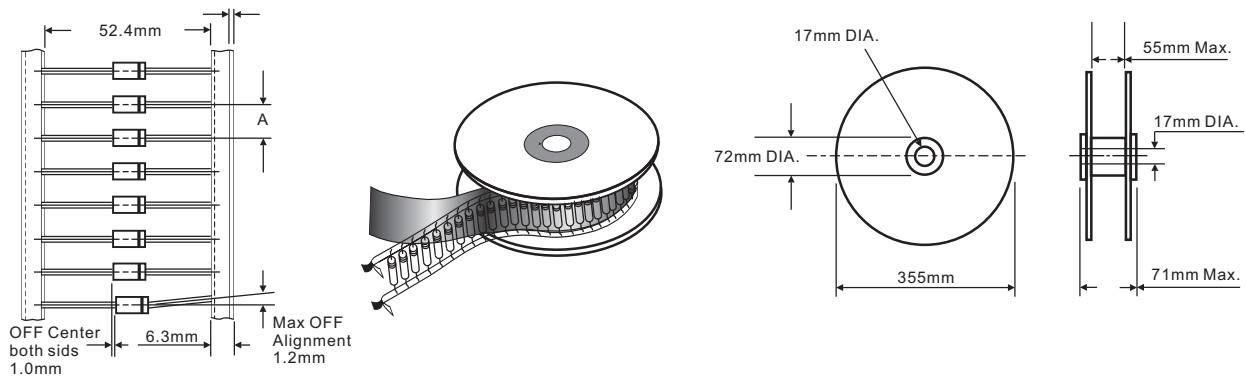
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode	1  2	1  2

Marking

Type number	Marking code
1N5391G	1N5391G
1N5392G	1N5392G
1N5393G	1N5393G
1N5395G	1N5395G
1N5397G	1N5397G
1N5398G	1N5398G
1N5399G	1N5399G

Taping & bulk specifications for AXIAL devices



REEL PACKING

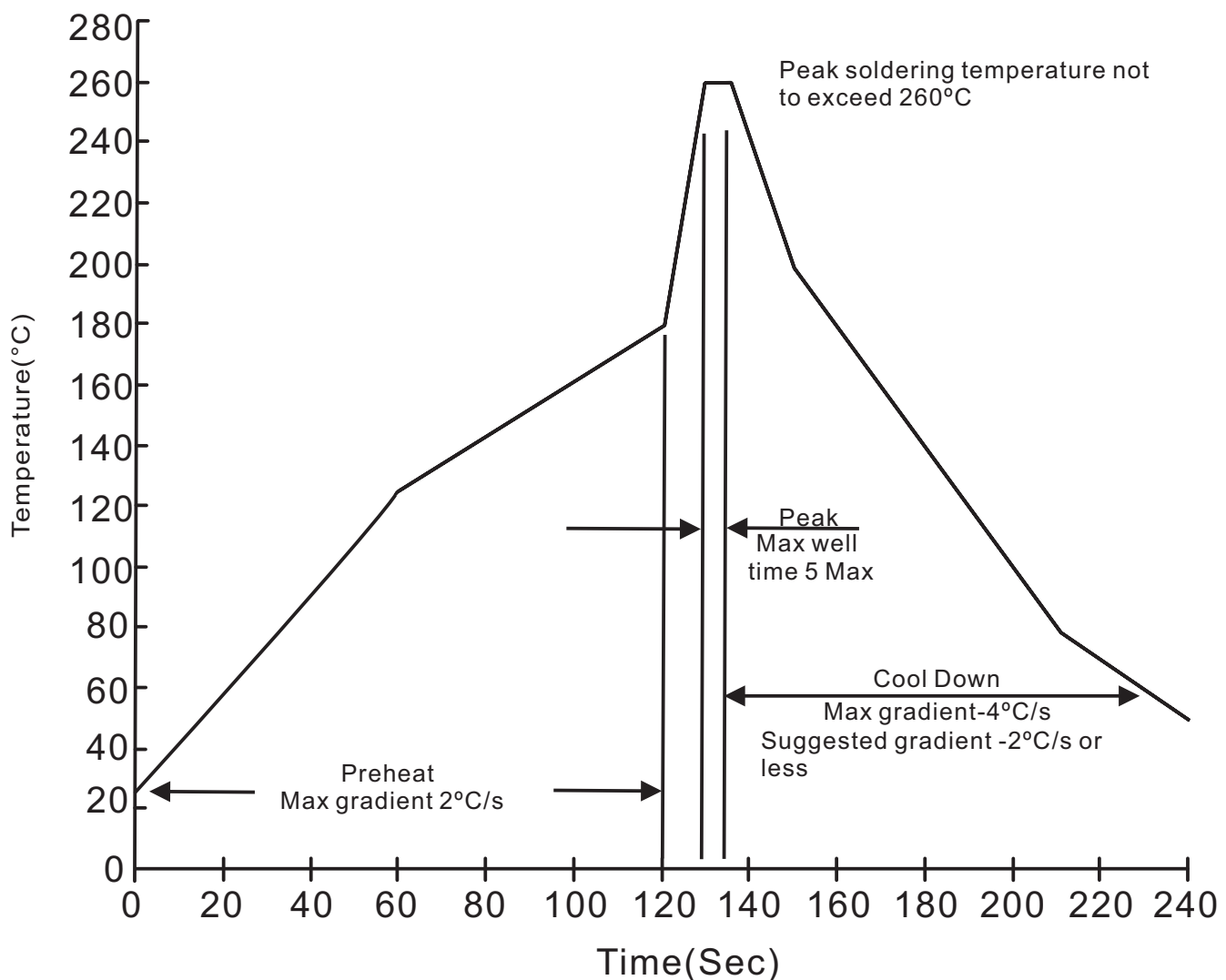
DEVICE CASE TYPE	Q'TY 1 (PCS / REEL)	COMPONENT SPACING "A" in FIG. A	CARTON SIZE (m/m)	Q'TY 2 (PCS / CARTON)	APPROX. CROSS WEIGHT(kg)
DO-15	4,000	5 mm	360 * 340 * 370	16,000	9.9

AMMO PACKING

DEVICE CASE TYPE	Q'TY 1 (PCS / BOX)	INNER BOX SIZE (m/m)	CARTON SIZE (m/m)	Q'TY 2 (PCS / CARTON)	APPROX. CROSS WEIGHT(kg)
DO-15	3,000	260 * 83 * 160	440 * 270 * 340	30,000	14.3

1N5391G THRU 1N5399G**BULK PACKING**

DEVICE CASE TYPE	Q'TY 1 (PCS / BOX)	INNER BOX SIZE (m/m)	CARTON SIZE (m/m)	Q'TY 2 (PCS / CARTON)	APPROX. CROSS WEIGHT(kg)
DO-15	500	194 * 84 * 20	465 * 220 * 260	25,000	12.9

Suggested thermal profiles for soldering processes**1. Lead free temperature profile wave-soldering**

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High reliability test capabilities

Item Test	Conditions	Reference
1. Solder Resistance	at $260\pm 5^{\circ}\text{C}$ for $10\pm 2\text{sec.}$ immerse body into solder $1/16''\pm 1/32''$	MIL-STD-750D METHOD-2031
2. Solderability	at $245\pm 5^{\circ}\text{C}$ for 5 sec.	MIL-STD-202F METHOD-208
3. Pull Test	1.0kg in axial lead direction for 10 sec. $I_F = I_O$	MIL-STD-202F METHOD-211A
4. Bend Lead	1.0kg weight applied to each lead bending arc $90^{\circ}\pm 5^{\circ}$ for 3 times	MIL-STD-202F METHOD-211A
5. High Temperature Reverse Bias	$V_R = 80\%$ rate at $T_J = 150^{\circ}\text{C}$ for 168 hrs.	MIL-STD-750D METHOD-1038
6. Forward Operation Life	Rated average rectifier current at $T_A = 25^{\circ}\text{C}$ for 500hrs. $T_A = 25^{\circ}\text{C}$, $I_F = I_O$ On state: power on for 5 min. off state: power off for 5 min, on and off for 500 cycles.	MIL-STD-750D METHOD-1027
7. Intermittent Operation Life		MIL-STD-750D METHOD-1036
8. Pressure Cooker	$15P_{SIG}$ at $T_A = 121^{\circ}\text{C}$ for 4 hrs.	JESD22-A102
9. Temperature Cycling	-55°C to $+125^{\circ}\text{C}$ dwelled for 30 min. and transferred for 5min. total 10 cycles.	MIL-STD-750D METHOD-1051
10. Forward Surge	8.3ms single half sine-wave one surge.	MIL-STD-750D METHOD-4066-2
11. Humidity	at $T_A = 85^{\circ}\text{C}$, RH=85% for 1000hrs.	MIL-STD-750D METHOD-1021
12. High Temperature Storage Life	at 175°C for 1000 hrs.	MIL-STD-750D METHOD-1031