

1N5391G THRU 1N5399G

List

List..... 1

Package outline..... 2

Features..... 2

Mechanical data..... 2

Maximum ratings2

Rating and characteristic curves..... 3

Pinning information.....4

Marking..... 4

Taping & bulk specifications for AXIAL devices..... 4

Suggested thermal profiles for soldering processes..... 5

High reliability test capabilities.....6

1N5391G THRU 1N5399G

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

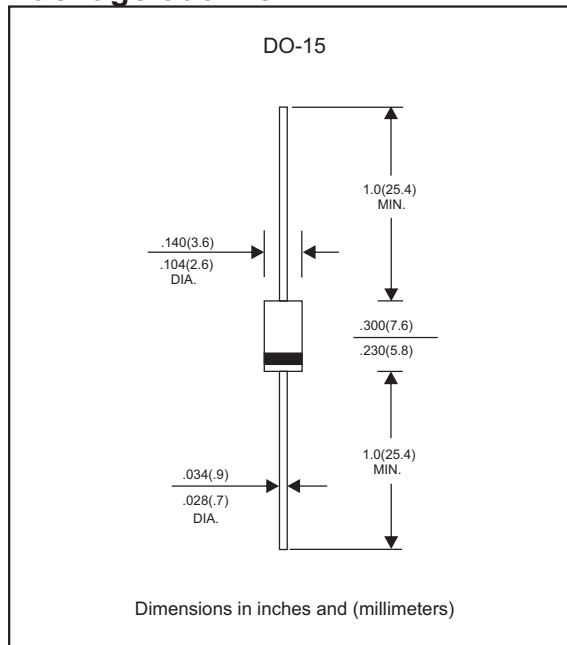
Features

- Axial lead type devices for through hole design.
- High current capability.
- High surge capability.
- Glass passivation junction chip inside.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- 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 guranteed
- 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 methode)	I_{FSM}			50	A
Reverse current	$V_R = V_{RRM} T_J = 25^{\circ}\text{C}$	I_R			5.0	μA
	$V_R = V_{RRM} T_J = 125^{\circ}\text{C}$				50	
Thermal resistance	Junction to ambient	$R_{\theta JA}$		50		$^{\circ}\text{C}/\text{W}$
Diode junction capacitance	f=1MHz 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		

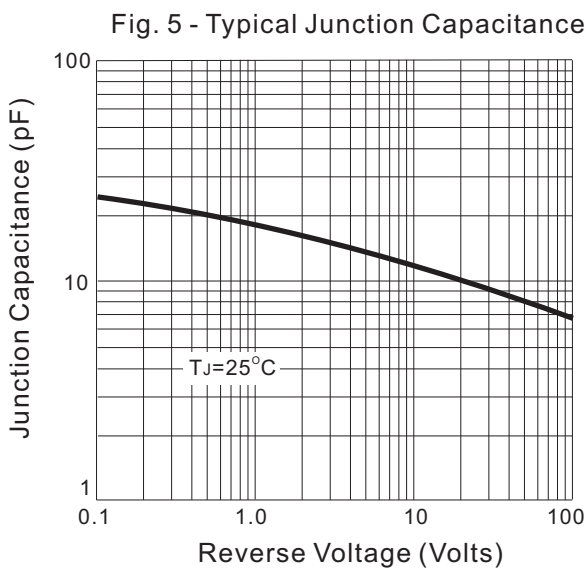
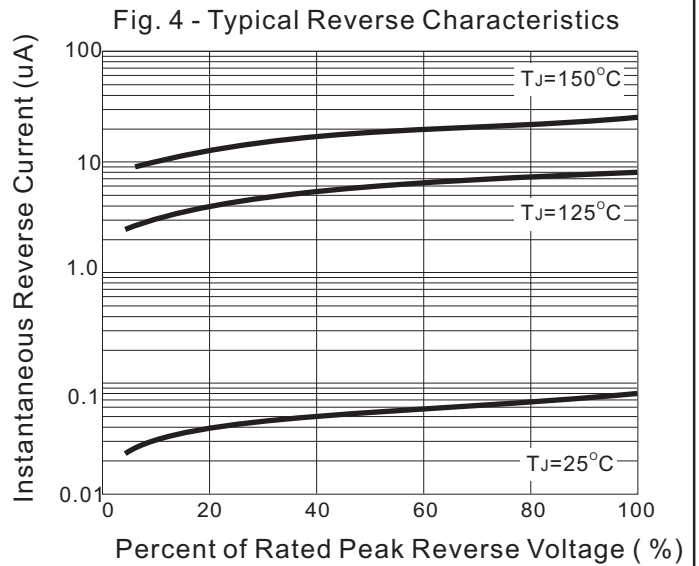
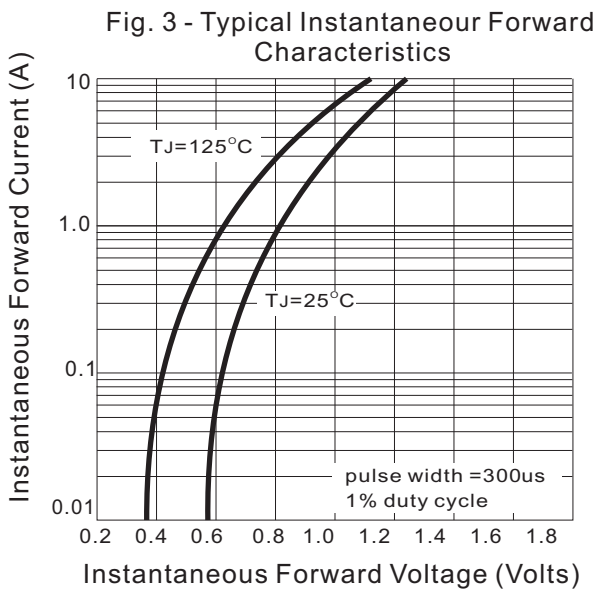
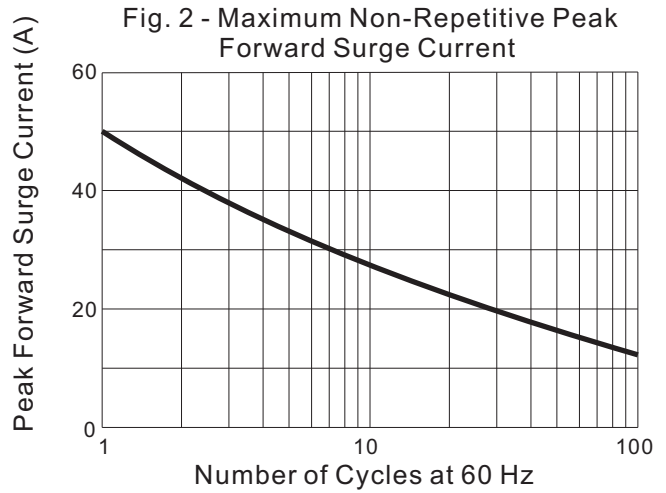
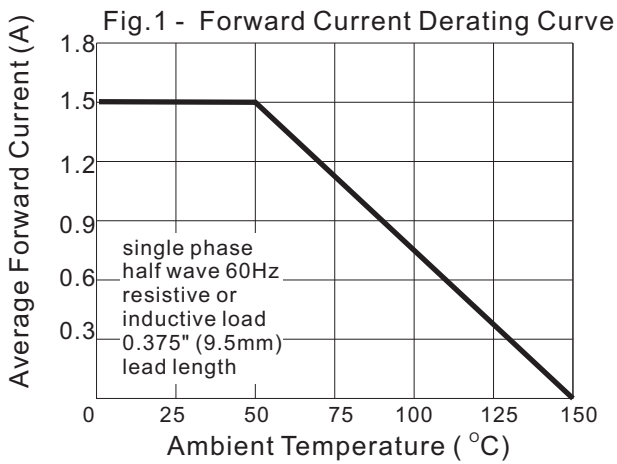
*1 Repetitive peak reverse voltage

*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

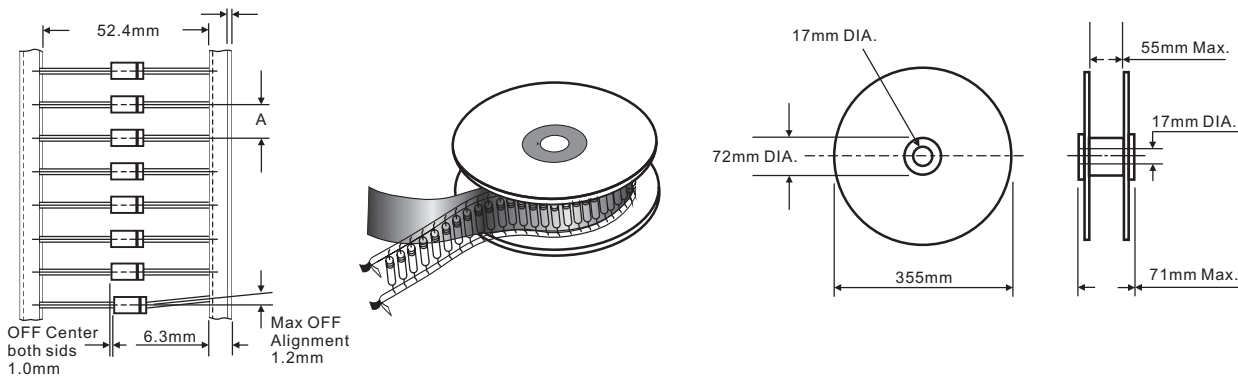
Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

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

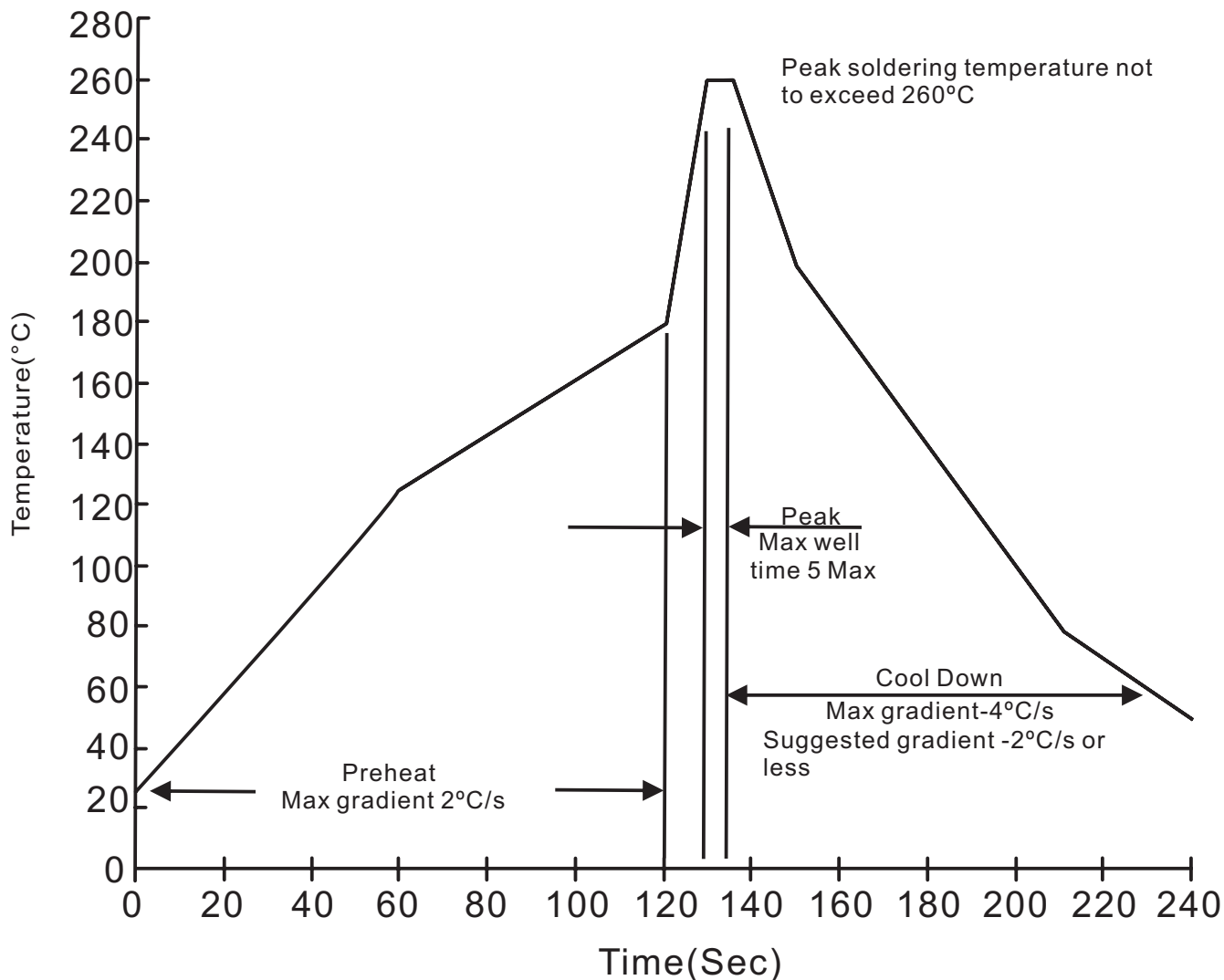
1N5391G THRU 1N5399G

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



1N5391G THRU 1N5399G**High reliability test capabilities**

Item Test	Conditions	Reference
1. Solder Resistance	at 260±5°C for 10±2sec. immerse body into solder 1/16"±1/32"	MIL-STD-750D METHOD-2031
2. Solderability	at 245±5°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°±5° 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. $T_A = 25^\circ\text{C}$, $I_F = I_O$	MIL-STD-750D METHOD-1027
7. Intermittent Operation Life	On state: power on for 5 min. off state: power off for 5 min, on and off for 500 cycles.	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°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