

1N914B

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150mA Axial Led Type Switching Diode-100V

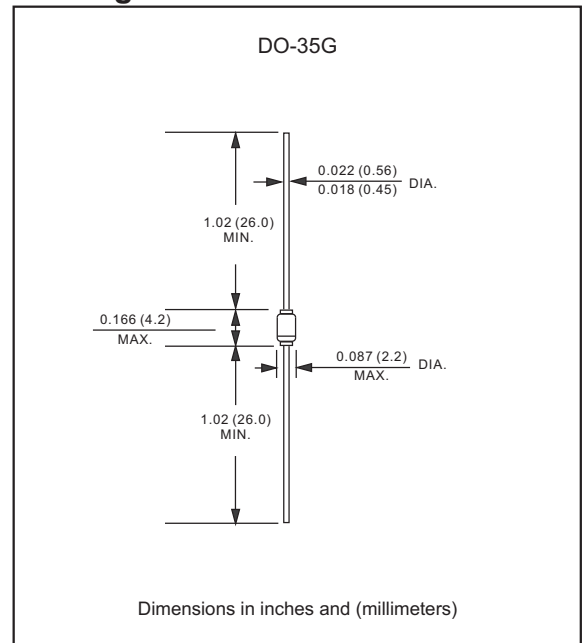
Features

- Fast Switching Device ($t_{rr} < 4.0\text{ns}$)
- Through-Hole Device Type Mounting
- Silicon epitaxial planar chip struction.
- Hermetically Sealed Glass
- Compression Bonded Construction
- All External Surfaces Are Corrosion Resistant And Leads Are Readily Solderable
- RoHS Compliant
- Solder Hot Dip Tin (Sn) Terminal Finish
- Cathode Indicated By Polarity Band
- Lead-free parts meet RoHS requirments.

Mechanical data

- Case : Glass, DO-35G
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity : Indicated by cathode band
- Mounting Position : Any
- Weight : Approximated 0.125 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
Repetitive peak reverse voltage		V_{RRM}			100	V
Reverse voltage		V_R			75	V
Peak forward surge current	$t_p = 1 \text{ us}$	I_{FSM}			2.0	A
Non-repetitive Peak Forward Current		I_{FRM}			450	mA
Average Rectified Current		I_O			150	mA
Power Dissipation	$T_A = 25^\circ\text{C}$	P_D			500	mW
Operating Junction temperature range		T_J	-55		+150	$^\circ\text{C}$
Storage temperature range		T_{STG}	-55		+150	$^\circ\text{C}$
Forward voltage	$I_F = 5\text{mA}$ $I_F = 100\text{mA}$	V_F	0.62		0.72 1.00	V
Reverse current	$V_R = 20 \text{ V}$	I_R			25	nA
	$V_R = 75 \text{ V}$	I_R			5.0	μA
Breakdown voltage	$I_R = 100\mu\text{A}$	$V_{(BR)}$	100			V
Diode capacitance	$V_R = 0 \text{ V}$, $f = 1\text{MHz}$	C_J			4.0	pF
Reverse recovery time	$I_F = 10 \text{ mA}$, $V_R = 6 \text{ V}$, $I_{RR} = 0.1 \times I_R$, $R_L = 100\Omega$	t_{rr}			4.0	ns

Rating and characteristic curves (1N914B)

Figure 1. Power Dissipation vs Ambient Temperature
Valid provided leads at a distance of 0.8mm from case are kept at ambient temperature

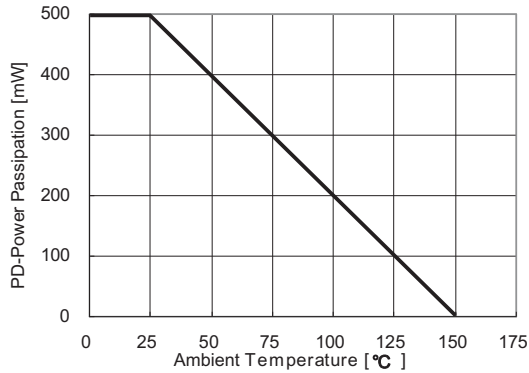


Figure 2. Total Capacitance

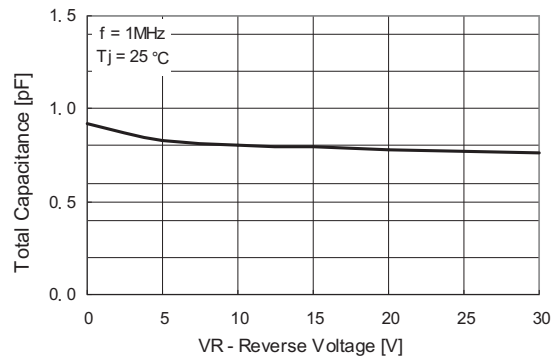


Figure 3. Reverse Voltage vs Reverse Current
1.0uA to 100uA

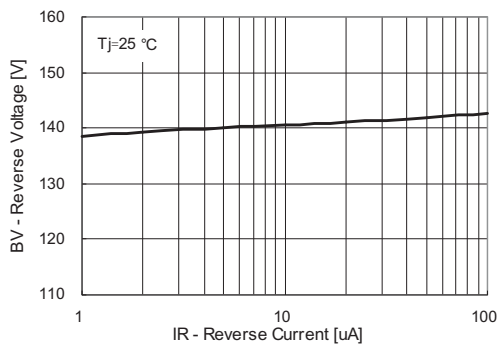


Figure 4. Reverse Current vs Reverse Voltage
10V to 100V

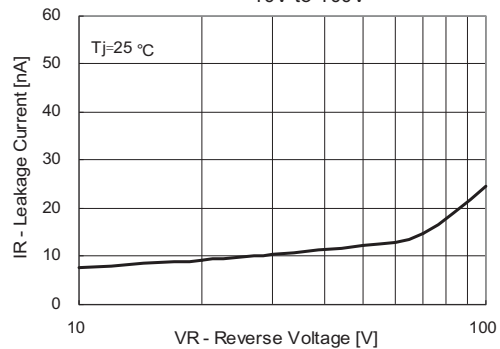


Figure 5. Forward Voltage vs Forward Current
VF 0.001mA to 800mA

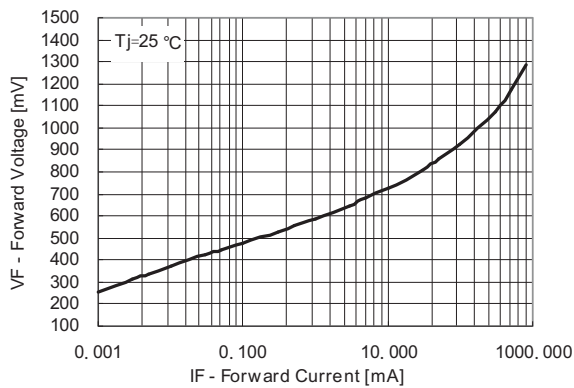
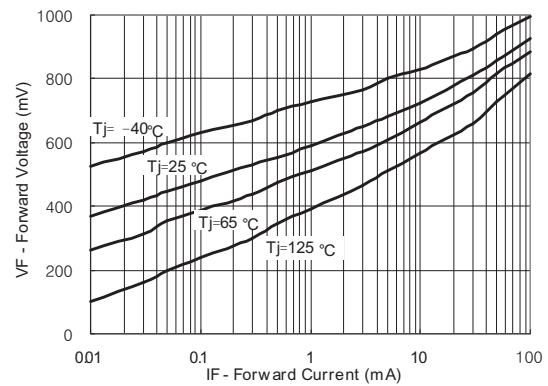


Figure 6. Forward Voltage vs Ambient Temperature
VF 0.01mA to 100mA (-40 to +125 Deg C)



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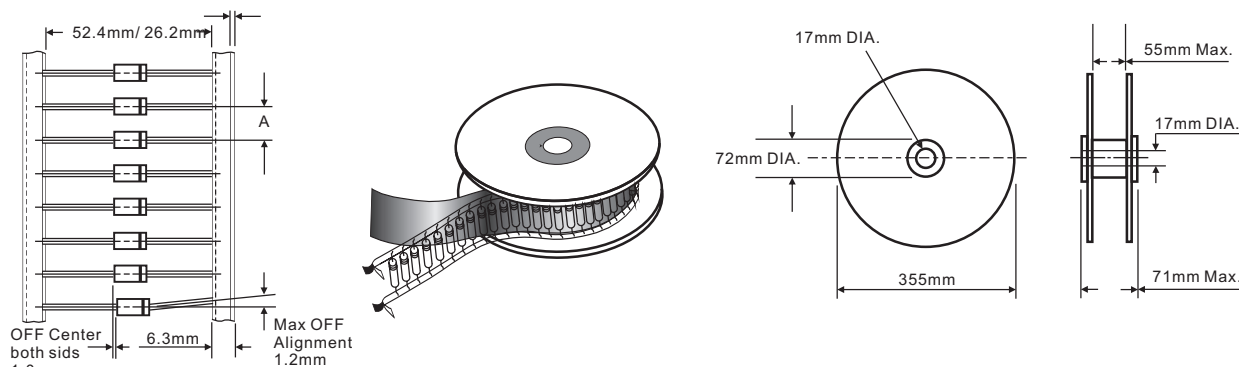
Pinning information

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

Marking

Type number	Marking code
1N914B	1N914B

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-35G/52mm	10,000	5 mm	360 * 360 * 395	50,000	11.4

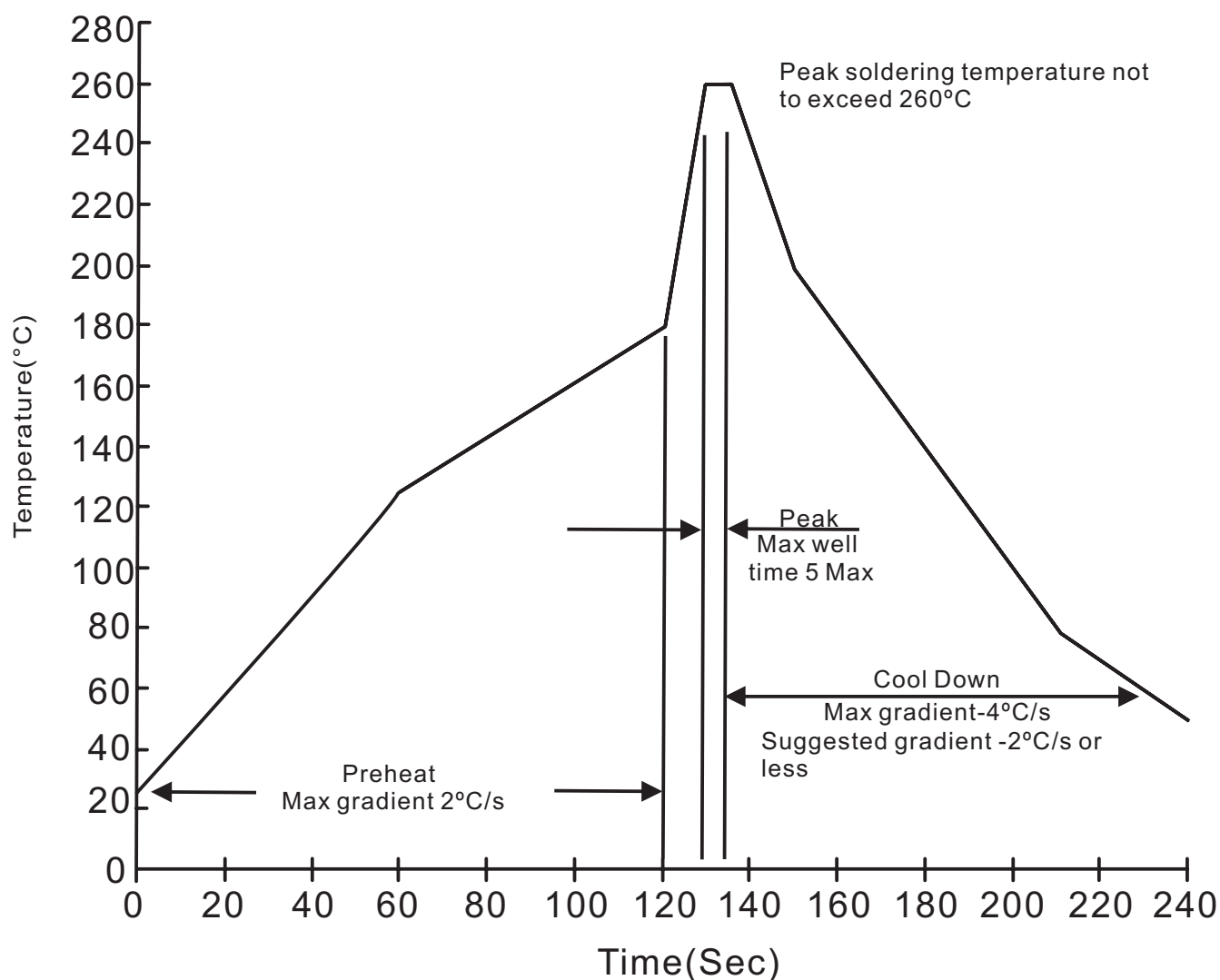
AMMO PACKING

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-35G/26mm	5,000	250 * 78 * 48	420 * 270 * 330	150,000	16.7
DO-35G/52mm	5,000	250 * 78 * 78	420 * 270 * 330	100,000	15.0
DO-35G/52mm	10,000	250 * 78 * 122	420 * 270 * 330	100,000	15.0

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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-35G	2,000	96 * 80 * 42	410 * 335 * 265	120,000	17.4

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	0.25kg in axial lead direction for 10 sec.	MIL-STD-750D METHOD-2036
4. Bend Lead	0.25kg weight applied to each lead bending arc $90^{\circ}\pm 5^{\circ}$ for 3 times.	MIL-STD-750D METHOD-2036
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.	MIL-STD-750D METHOD-1027
7. Intermittent Operation Life	$T_A = 25^{\circ}\text{C}$, $I_F = I_O$ On state: power on for 5 min. off state: power off for 5 min, on and off for 500 cycles.	MIL-STD-750D METHOD-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	Peak forward surge current	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