

RL201 THRU RL207

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

RL201 THRU RL207

2.0A Axial Leaded General Purpose Rectifiers - 50V-1000V

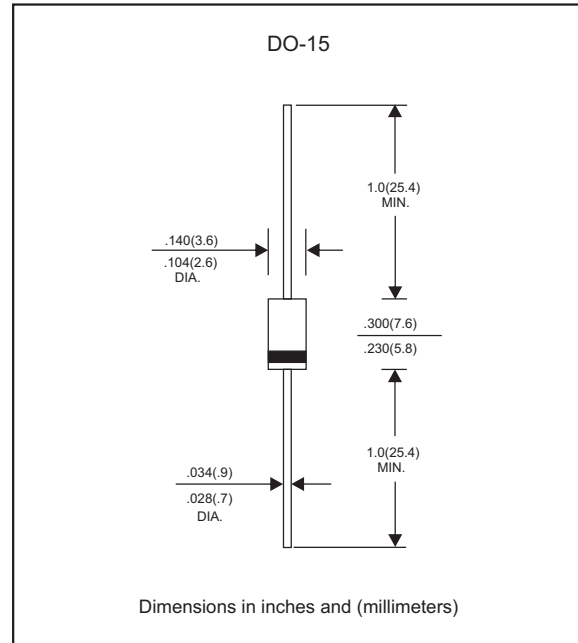
Features

- Axial lead type devices for through hole design.
- High current capability.
- High surge capability.
- Silicon rubber coating chip junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Suffix "-H" indicates Halogen-free parts, ex. RL201-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°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.2	I _O			2.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I _{FSM}			70	A
Reverse current	V _R = V _{RRM} T _J = 25°C	I _R			5.0	μA
	V _R = V _{RRM} T _J = 100°C				50	
Thermal resistance	Junction to ambient	R _{θJA}		40		°C/W
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C _J		20		pF
Storage temperature		T _{STG}	-65		+175	°C

SYMBOLS	V _{RRM} ^{*1} (V)	V _{RMS} ^{*2} (V)	V _R ^{*3} (V)	V _F ^{*4} (V)	Operating temperature T _J , (°C)
RL201	50	35	50	1.00	-55 to +125
RL202	100	70	100		
RL203	200	140	200		
RL204	400	280	400		
RL205	600	420	600		
RL206	800	560	800		
RL207	1000	700	1000		

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@I_F=2.0A

Rating and characteristic curves (RL201 THRU RL207)

FIG.1-TYPICAL FORWARD CHARACTERISTICS

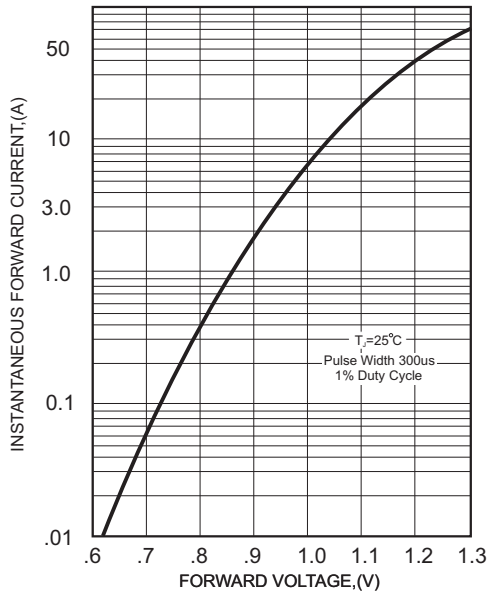


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

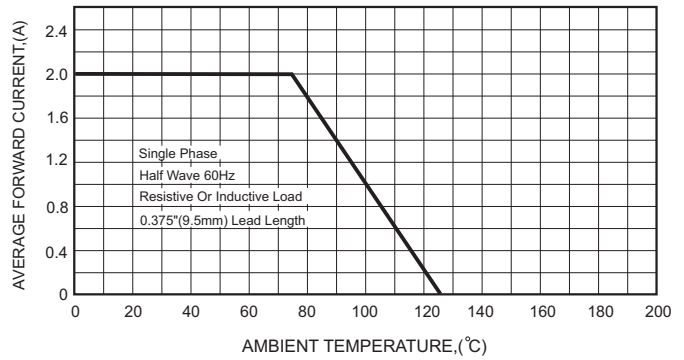


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

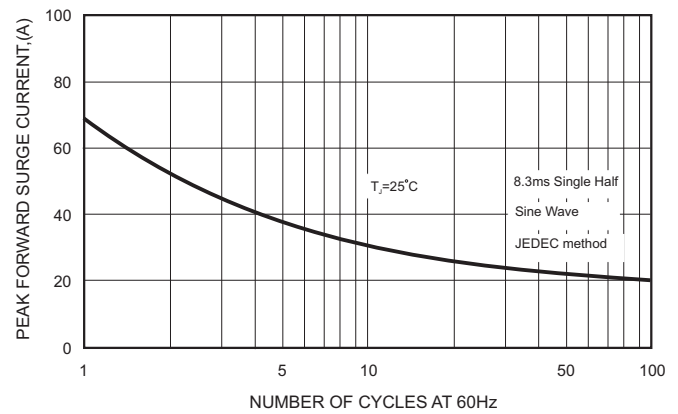


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

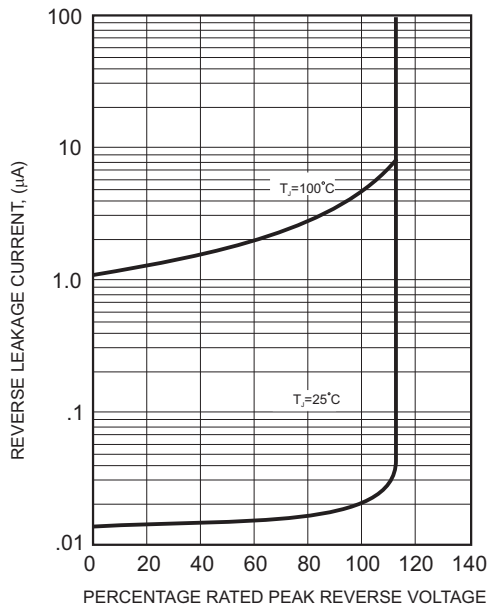
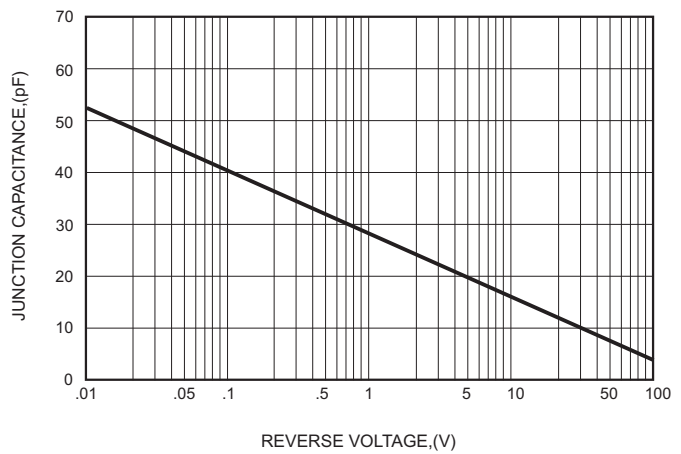




FIG.5-TYPICAL JUNCTION CAPACITANCE



RL201 THRU RL207

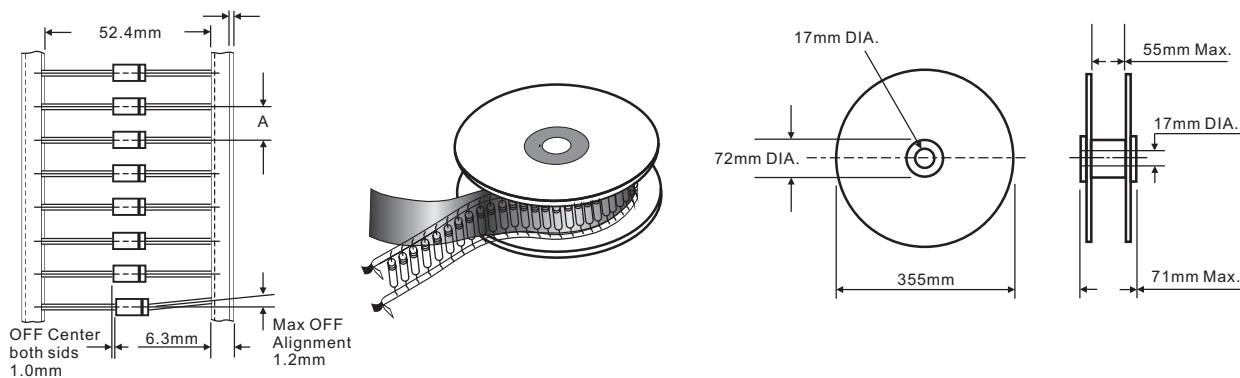
Pinning information

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

Marking

Type number	Marking code
RL201	RL201
RL202	RL202
RL203	RL203
RL204	RL204
RL205	RL205
RL206	RL206
RL207	RL207

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	380 * 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

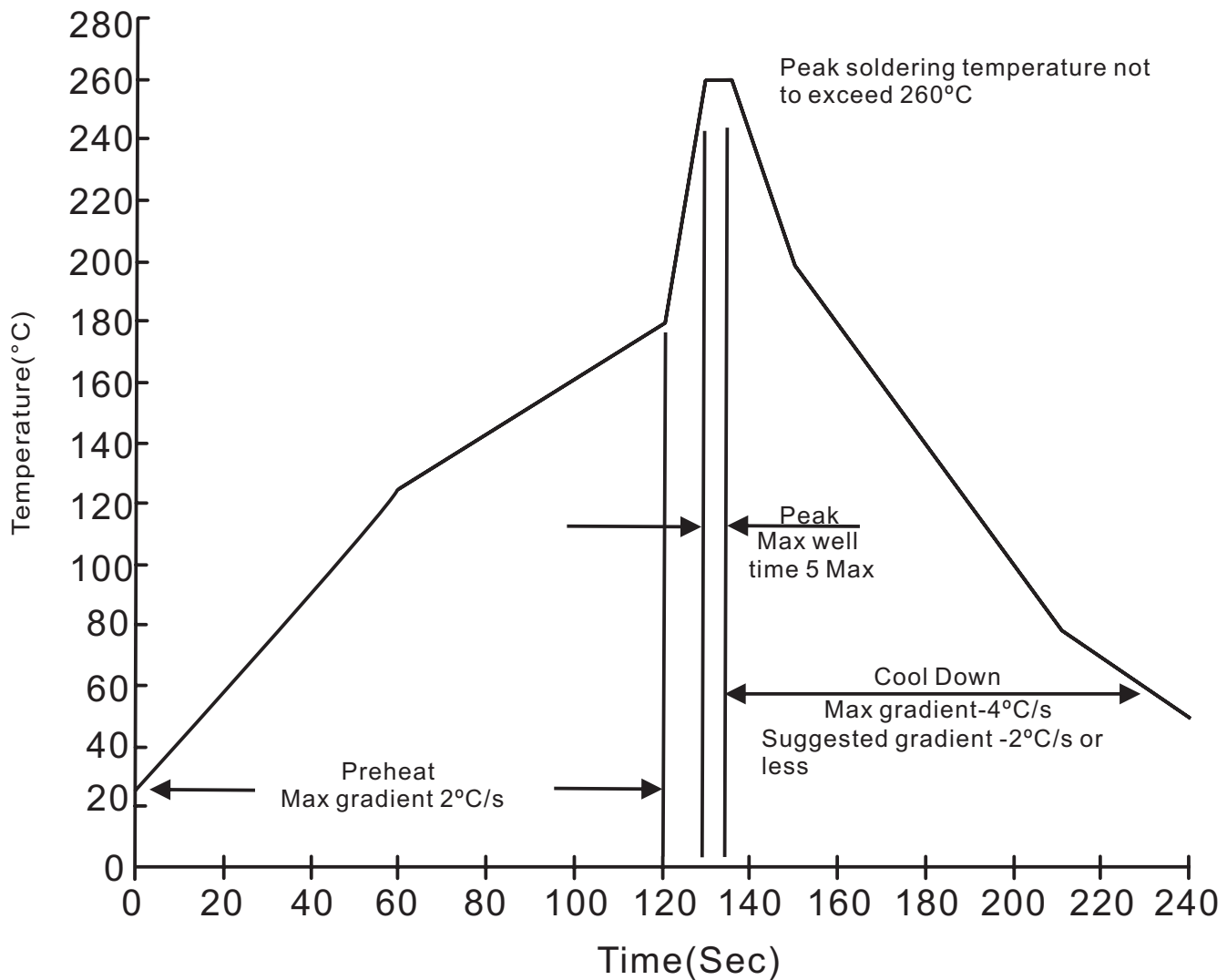
RL201 THRU RL207

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



RL201 THRU RL207**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 $T_J = 125^{\circ}\text{C}$ 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	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