



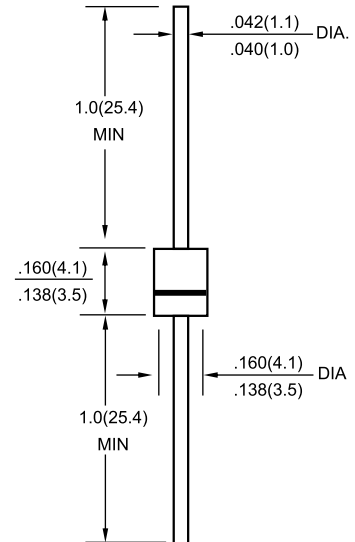
RL251-RL257

General Purpose Plastic Rectifier

Reverse Voltage - 50 to 1000 Volts
Forward Current - 2.5 Amperes



R-3



Dimensions in inches and (millimeters)

Features

- ✧ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ✧ High surge current capability
- ✧ 2.5 ampere operation at $T_A=75^{\circ}\text{C}$ with no thermal runaway
- ✧ Low reverse leakage
- ✧ Construction utilizes void-free molded plastic technique
- ✧ High temperature soldering guaranteed:
250°C/10 seconds, 0.375" (9.5mm) lead length,
5 lbs. (2.3Kg) tension

Mechanical Data

- ✧ **Case:** R-3 molded plastic body
- ✧ **Polarity:** Color band denotes cathode end
- ✧ **Mounting Position:** Any
- ✧ **Weight** : 0.645 gram

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Type Number	Symbols	RL251	RL252	RL253	RL254	RL255	RL256	RL257	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum average forward current at $T_A=75^{\circ}\text{C}$	$I_{(AV)}$	2.5							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (MIL-STD-750D 4066 method)	I_{FSM}	150.0							Amps
Maximum instantaneous forward voltage at $I_{FM}=2.5\text{A}$, $T_A=25^{\circ}\text{C}$ (Note 2)	V_F	1.0							Volts
Maximum DC reverse current at rated DC blocking voltage $T_A=25^{\circ}\text{C}$ $T_A=100^{\circ}\text{C}$	I_R	5.0 50.0							μA
Typical junction capacitance (Note 1)	C_J	35.0							ρF
Typical thermal resistance	$R_{\theta JA}$	35							$^{\circ}\text{C/W}$
Operating and storage temperature range	$T_{J'}$, T_{STG}	-65 to +175							$^{\circ}\text{C}$

Notes:

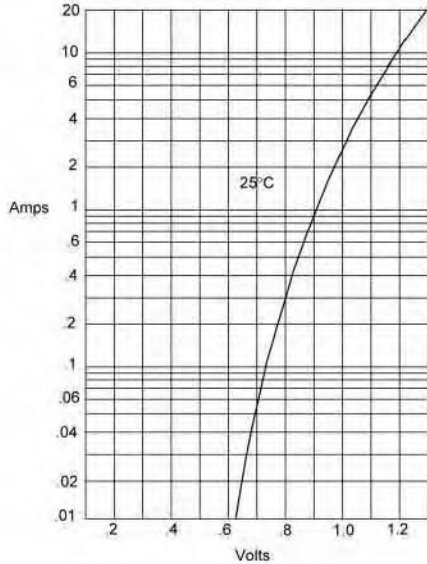
- (1) Measured at 1.0MHz and applied reverse voltage of 4.0 volts
- (2) Pulse test: pulse width 300uSec, Duty cycle 1%

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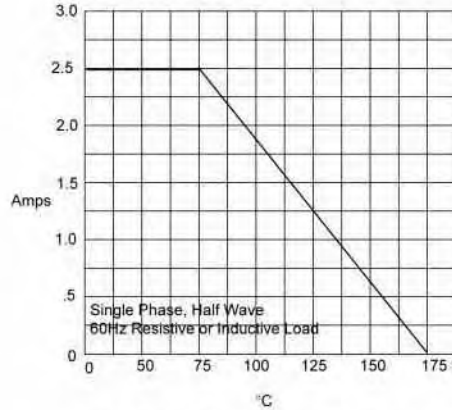
RATINGS AND CHARACTERISTIC CURVES

Figure 1
 Typical Forward Characteristics



Instantaneous Forward Current - Amperes *versus*
 Instantaneous Forward Voltage - Volts

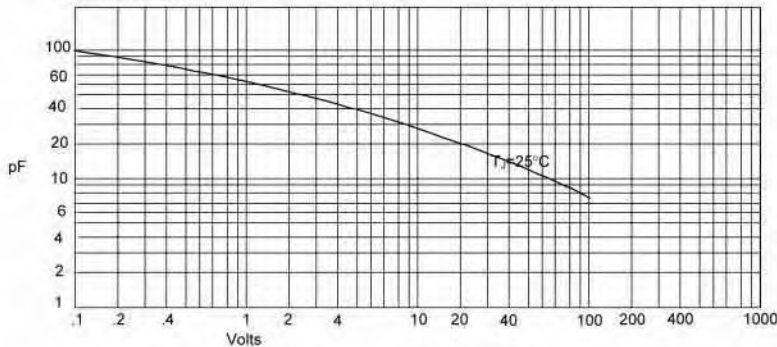
Figure 2
 Forward Derating Curve



Single Phase, Half Wave
 60Hz Resistive or Inductive Load

Average Forward Rectified Current - Amperes *versus*
 Ambient Temperature - °C

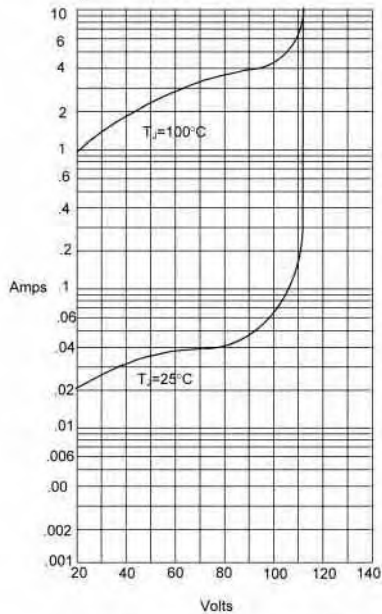
Figure 3
 Junction Capacitance



Junction Capacitance - pF *versus*
 Reverse Voltage - Volts

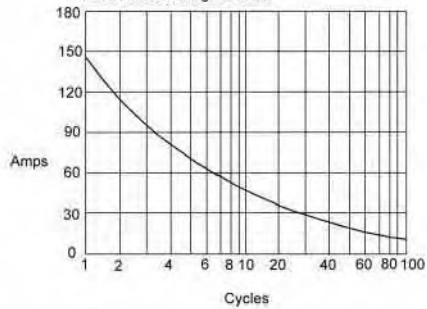
RATINGS AND CHARACTERISTIC CURVES

Figure 4
 Typical Reverse Characteristics



Instantaneous Reverse Current - Amperes *versus*
 Percent Of Rated Peak Reverse Voltage - Volts

Figure 5
 Peak Forward Surge Current



Peak Forward Surge Current - Amperes *versus*
 Number Of Cycles At 60Hz - Cycles