



# RL251 THRU RL257

## GENERAL PURPOSE PLASTIC RECTIFIER

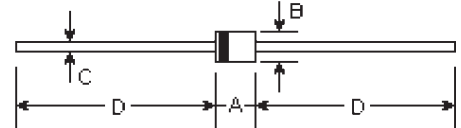
Reverse Voltage - 50 to 1000 Volts

Forward Current - 2.5 Amperes

### 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

**R-3**



### Mechanical Data

- **Case:** R-3 molded plastic body
- **Terminals:** Plated axial leads, solderable per MIL-STD-750, method 2026
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any
- **Weight:** 0.021 ounce, 0.60 gram

DIM	DIMENSIONS				Note
	inches		mm		
	Min.	Max.	Min.	Max.	
A	0.138	0.161	3.50	4.10	
B	0.138	0.161	3.50	4.10	φ
C	0.040	0.043	1.00	1.10	φ
D	1.000	-	25.40	-	

### Maximum Ratings and Electrical Characteristics @25°C unless otherwise specified

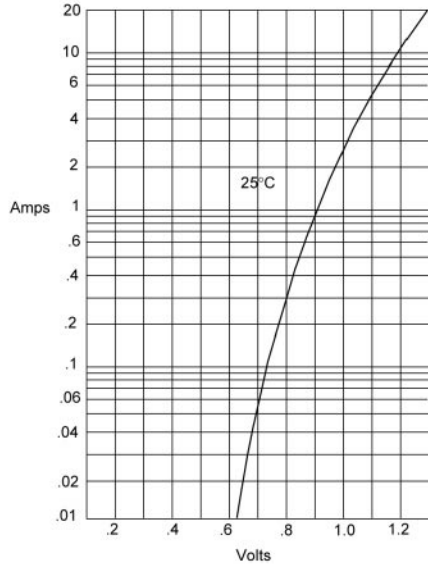
	Symbols	RL251	RL252	RL253	RL254	RL255	RL256	RL257	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum average forward current 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							pF
Typical thermal resistance	$R_{\theta JA}$	35							°C/W
Operating and storage temperature range	$T_J, T_{STG}$	-65 to +175							°C

**Notes:**

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

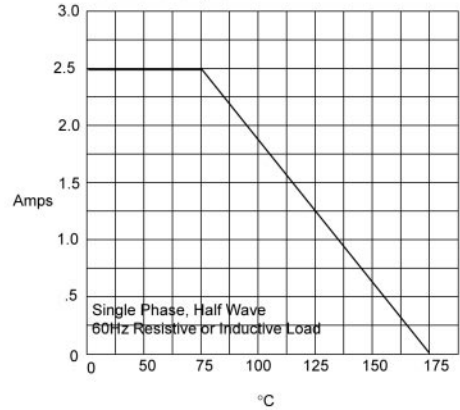
# RATINGS AND CHARACTERISTIC CURVES

Figure 1  
Typical Forward Characteristics



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

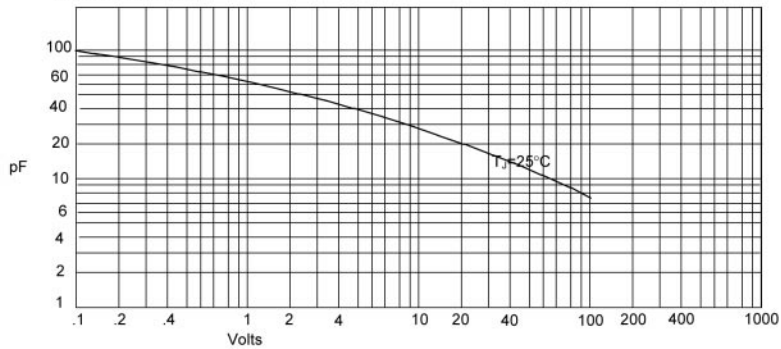
Figure 2  
Forward Derating Curve



Single Phase, Half Wave  
60Hz Resistive or Inductive Load

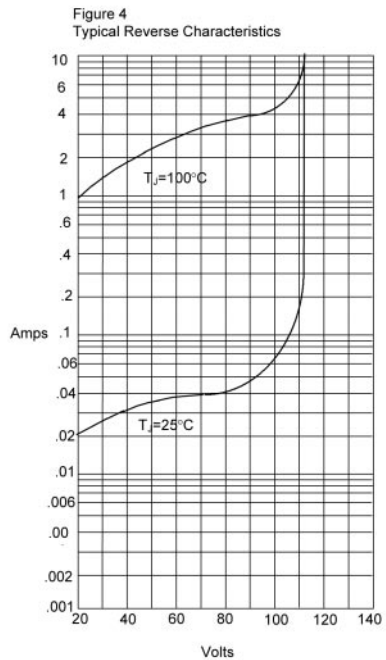
Average Forward Rectified Current - Amperes *versus*  
Ambient Temperature - °C

Figure 3  
Junction Capacitance

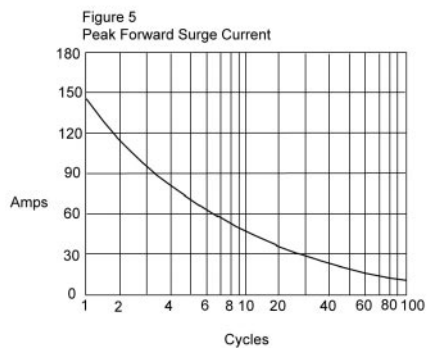


Junction Capacitance - pF *versus*  
Reverse Voltage - Volts

# RATINGS AND CHARACTERISTIC CURVES



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



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