



SYNSEMI SEMICONDUCTOR

# RL101 thru RL107

1.0 Amp. General Purpose Plastic Rectifiers  
Voltage Range 50 to 1000 Volts Forward Current 1.0 Ampere

## Features

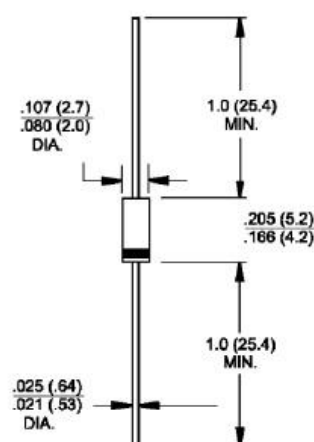
- ◆ Low forward voltage drop
- ◆ High current capability
- ◆ High reliability
- ◆ High surge current capability
- ◆  $\Phi$  0.6mm leads



A-405

## Mechanical Data

- ◆ Case: Molded plastic A-405
- ◆ Epoxy: UL 94V-O rate flame retardant
- ◆ Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- ◆ Polarity: Color band denotes cathode end
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds .375" (9.5mm) lead  
lengths at 5 lbs., (2.3kg) tension
- ◆ Weight: 0.008 ounce, 0.23 gram



## Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%

Parameter	Symbols	RL101	RL102	RL103	RL104	RL105	RL106	RL107	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 rectified current 0.375" (9.5mm) lead length @ $T_A = 75^\circ\text{C}$	$I_{(AV)}$	1.0							Amp
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30.0							Amps
Maximum instantaneous forward voltage @ 1.0A	$V_F$	1.1							Volts
Maximum DC reverse current @ $T_A = 25^\circ\text{C}$ at rated DC blocking voltage @ $T_A = 100^\circ\text{C}$	$I_R$	5.0 50							$\mu\text{A}$
Maximum full load reverse current full cycle average, 0.375" (9.5mm) lead length @ $T_A = 75^\circ\text{C}$	$I_{R(AV)}$	30							$\mu\text{A}$
Typical junction capacitance (Note 1)	$C_J$	15							pF
Typical thermal resistance (Note 2)	$R_{\theta JA}$	50							$^\circ\text{C/W}$
Operating temperature range	$T_J$	-65 to +125							$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-65 to +150							$^\circ\text{C}$

Notes: 1. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.  
2. Thermal Resistance from Junction to Ambient .375" (9.5mm) Lead Length

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## RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

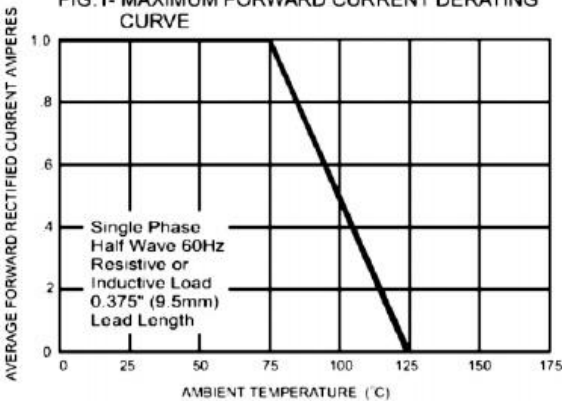


FIG.2- TYPICAL FORWARD CHARACTERISTICS

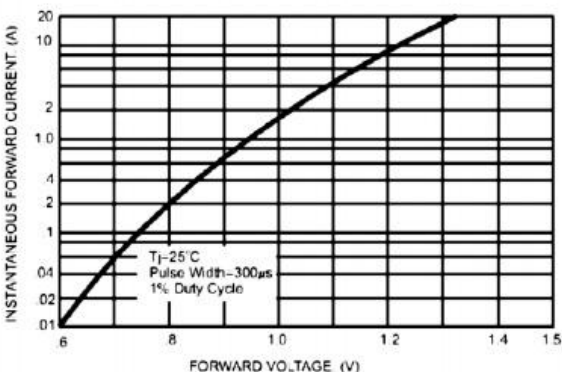


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

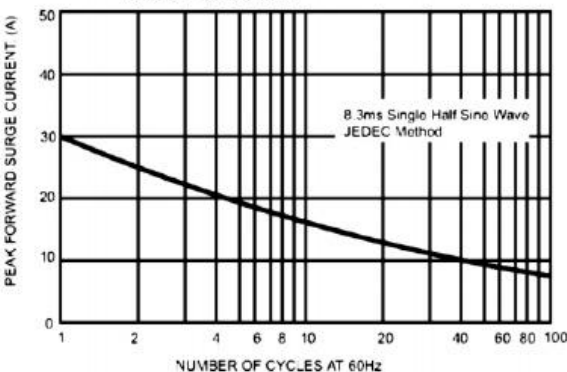


FIG.4- TYPICAL JUNCTION CAPACITANCE

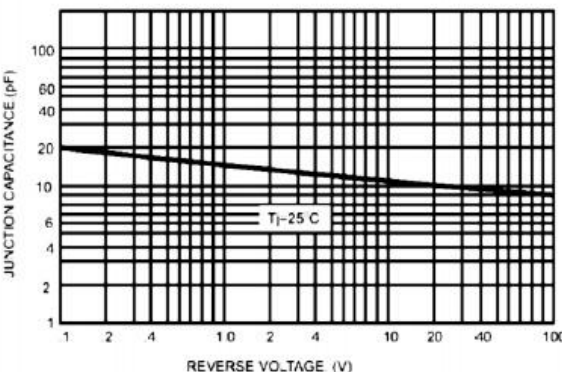


FIG.5- TYPICAL REVERSE CHARACTERISTICS

