

HIGH RELIABILITY POWER RECTIFIER

- 125 Amps Surge Rating
- Ceramic Surface Mount (U4 Style)

DEVICES

1N5807U4

1N5809U4

1N5811U4

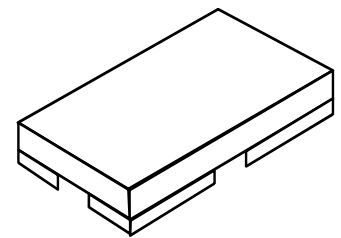
LEVELS

MX

MV

ABSOLUTE MAXIMUM RATINGS ($T_C = +25^\circ\text{C}$ unless otherwise noted)

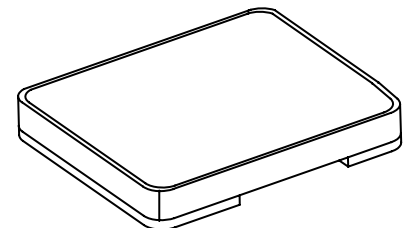
Parameters / Test Conditions	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RWM}	50	V
1N5807U4 1N5807U4M		100	
1N5809U4 1N5809U4M		150	
Average Forward Current, $T_{eC} = 75^\circ$	I_F	6	A
Peak Surge Forward Current @ $t_p = 8.3\text{ms}$, half sine $T_C = 25^\circ\text{C}$, $T = 1/120\text{s}$	I_{FSM}	125	A
Thermal Resistance, Junction to Case	$R_{\theta jc}$	6.5	$^\circ\text{C}/\text{W}$
Operating Case Temperature Range	T_C	-65°C to 175°C	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65°C to 175°C	$^\circ\text{C}$



U4

ELECTRICAL CHARACTERISTICS ($T_A = +25^\circ\text{C}$, unless otherwise noted)

Parameters / Test Conditions	Symbol	Min.	Max.	Unit		
Forward Voltage $I_F = 3\text{A}$, $T_A = 25^\circ\text{C}^*$ $I_F = 4\text{A}$, $T_A = 25^\circ\text{C}^*$ $I_F = 6\text{A}$, $T_A = 25^\circ\text{C}^*$	V_F		.865 .875 .925	V		
Reverse Current $V_R = 50$, $T_A = 25^\circ\text{C}$ 1N5807U4 1N5807U4M $V_R = 100$, $T_A = 25^\circ\text{C}$ 1N5809U4 1N5809U4M $V_R = 150$, $T_A = 25^\circ\text{C}$ 1N5811U4 1N5811U4M		I_R			5	μA
Reverse Current $V_R = 50$, $T_A = 125^\circ\text{C}$ 1N5807U4 1N5807U4M $V_R = 100$, $T_A = 125^\circ\text{C}$ 1N5809U4 1N5809U4M $V_R = 150$, $T_A = 125^\circ\text{C}$ 1N5811U4 1N5811U4M			I_R			
Reverse Recovery Time $I_F = I_{RM} = 1.0\text{A}$ 1N5807U4 1N5807U4M $i_{(REC)} = 0.1\text{A}$ 1N5809U4 1N5809U4M $di/dt = 100\text{A}/\mu\text{s}$ (min) 1N5811U4 1N5811U4M	T_{rr}				525	



U4M

* Pulse test: Pulse width 300 μsec , Duty cycle 2%

Note:

GRAPHS

FIGURE 1
TYPICAL FORWARD CHARACTERISTICS

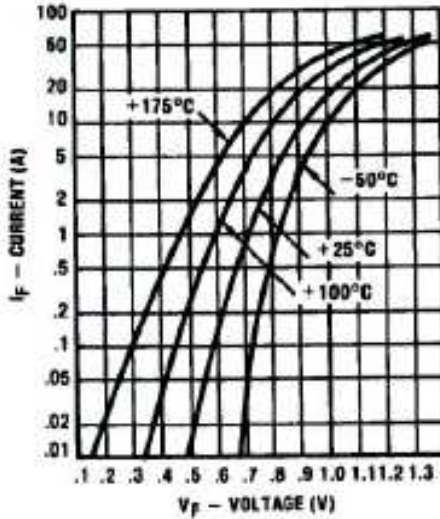


FIGURE 3
FORWARD PULSE CURRENT

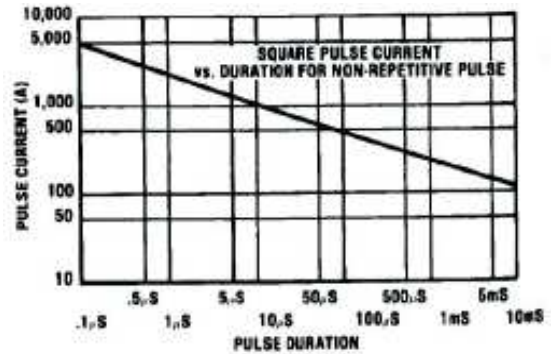


FIGURE 2
TYPICAL REVERSE CHARACTERISTICS

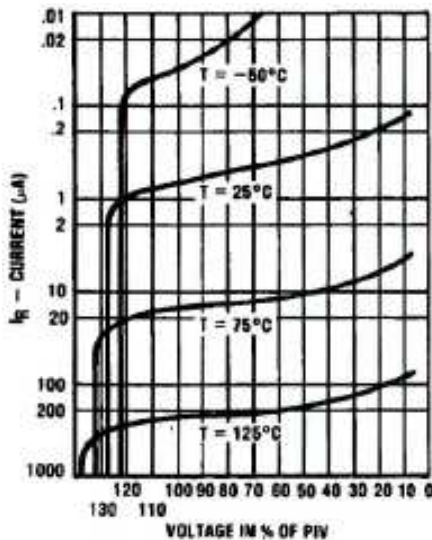
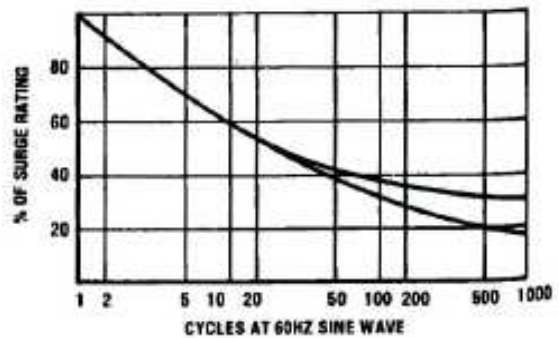
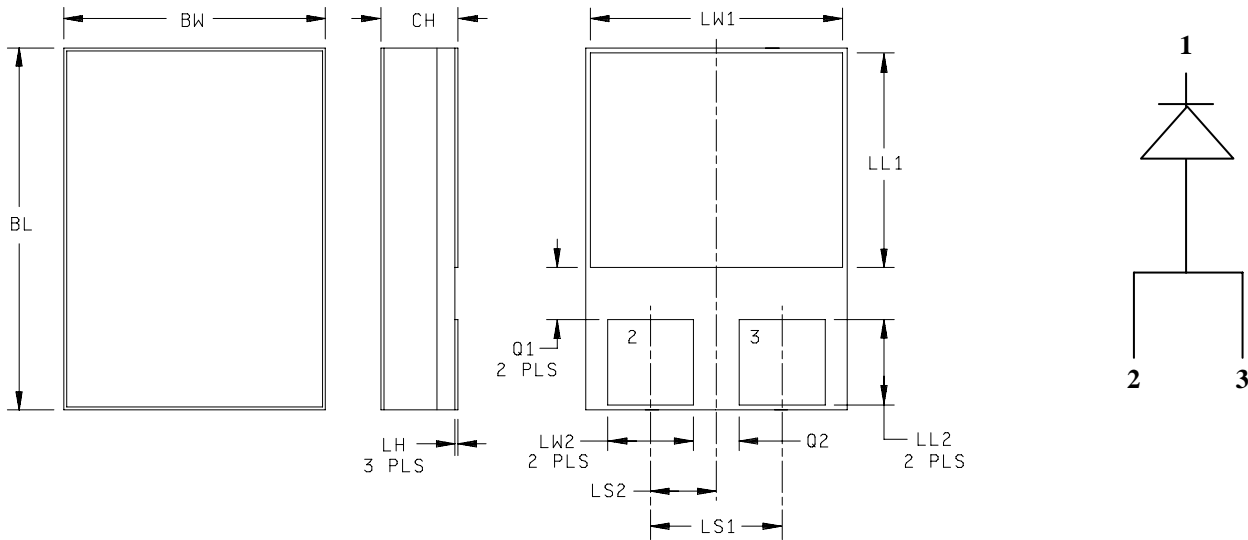


FIGURE 4
MULTIPLE SURGE CURRENT



PACKAGE DIMENSIONS



NOTES:

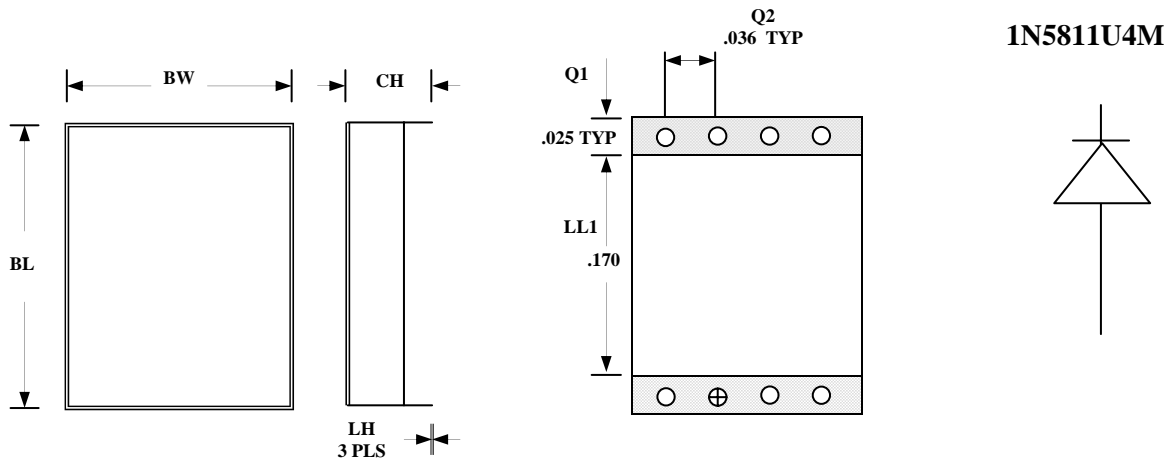
1. Dimensions are in inches.
2. Millimeter equivalents are given for general information only.
3. In accordance with ASME Y14.5M, diameters are equivalent to Φ x symbology.

Ltr	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
BL	.215	.225	5.46	5.72
BW	.145	.155	3.68	3.94
CH	.049	.075	1.24	1.91
LH		.005		0.127
LW1	.135	.145	3.43	3.68
LW2	.047	.057	1.19	1.45
LL1	.115	.125	2.92	3.18
LL2	.045	.005	1.14	1.40
LS1	.070	.095	1.78	2.41
LS2	.038	.048	0.965	1.22
Q1	.045	.070	1.14	1.78
Q2	.025	.035	0.635	0.89
TERMINAL				
1	CATHODE			
2	ANODE			
3	ANODE			

FIGURE 1
Physical dimensions, surface mount (U4 version)

COMING SOON: 1N5807U4M – 1N5809U4M – 1N5811U4M

Coming soon a new package with the similar foot print as a 1N5811US package but built in a U4 style ceramic surface mount, gold plated contacts. (40-100u inches electrolytic gold)



NOTES:

1. Dimensions are in inches.
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Ltr	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
BL	.215	.225	5.46	5.72	
BW	.145	.155	3.68	3.94	
CH	.049	.075	1.24	1.91	
LH		.005		0.127	
LL1		.170		4.318	
Q1		.025		0.635	TYP
Q2		.036		0.914	TYP

FIGURE 2
Physical dimensions, surface mount (U4M version)