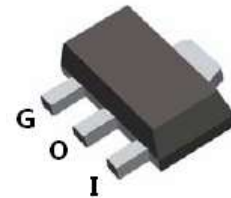
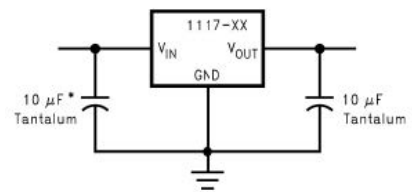




### FEATURES

- Available in 1.5V, 1.8V, 2.5V, 2.85V, 3.3V 5V, and Adjustable Versions.
- Current Limiting and Thermal Protection.
- Output Current(800mA).
- Line Regulation(0.2%Max).
- Load Regulation(0.4%Max).



**SOT-89**

### APPLICATIONS

- Post Regulator for Switching DC/DC Converter.
- High Efficiency Linear Regulators.
- Battery Charger.
- Battery Powered Instrumentation.

### ORDERING INFORMATION

Type No.	Marking	Package Code
1117-ADJ	1117-ADJ	SOT-89
1117-1.5	1117-1.5	SOT-89
1117-1.8	1117-1.8	SOT-89
1117-2.5	1117-2.5	SOT-89
1117-2.85	1117-2.85	SOT-89
1117-3.3	1117-3.3	SOT-89
1117-5.0	1117-5.0	SOT-89

### MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Units
$V_I$	Input voltage	20	V
$I_{CM}$	Maximum output current	800	mA
$P_D$	Power dissipation	500	mW
$T_J, T_{stg}$	Storage temperature range	-65 to +150	°C
$R_{\theta JC}$	Thermal Resistance Junction-case	25	°C/W
$R_{\theta JL}$	Thermal Resistance Junction-lead	11.5	°C/W

### ELECTRICAL CHARACTERISTICS

Typicals and limits appearing in normal type apply for  $T_J=25^{\circ}\text{C}$ . Limits appearing in Boldface type apply over the entire junction temperature range for operation,  $0^{\circ}\text{C}$  to  $125^{\circ}\text{C}$

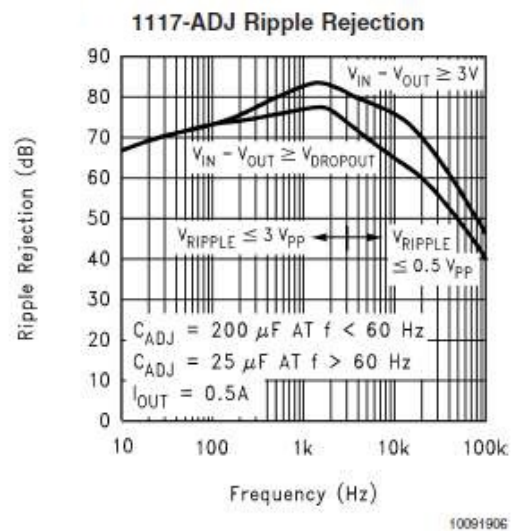
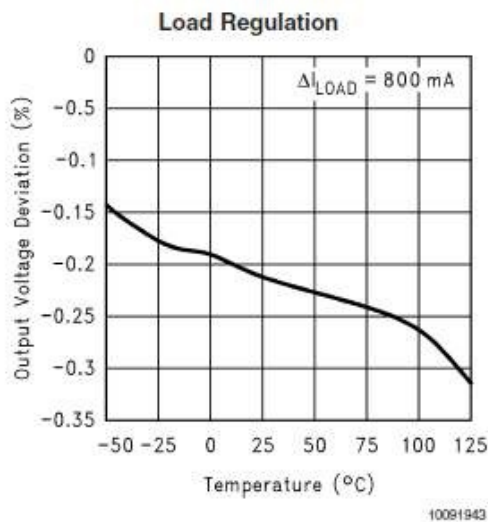
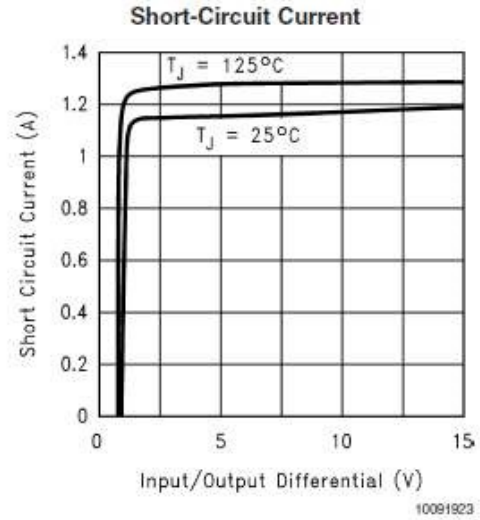
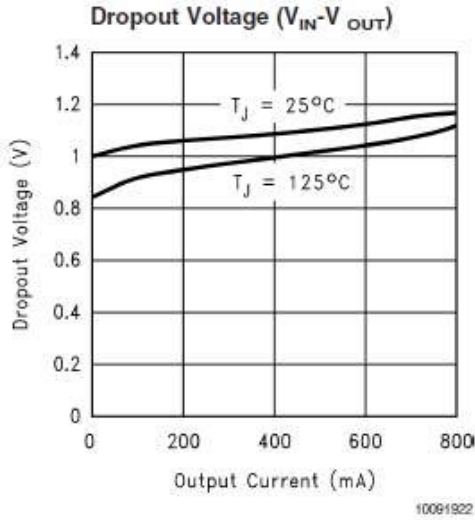
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Reference Voltage	$V_{REF}$	1117-ADJ $I_{OUT}=10\text{mA}, V_{IN}-V_{OUT}=2\text{V}, T_J=25^{\circ}\text{C}$	1.238	1.250	1.262	V
		$10\text{mA} \leq I_{OUT} \leq 800\text{mA}, 1.4\text{V} \leq V_{IN}-V_{OUT} \leq 10\text{V}$	<b>1.225</b>	1.250	<b>1.270</b>	
Output Voltage	$V_{OUT}$	1117-1.5 $I_{OUT}=10\text{mA}, V_{IN}=3.5\text{V}, T_J=25^{\circ}\text{C}$	1.485	1.5	1.515	V
		$10\text{mA} \leq I_{OUT} \leq 800\text{mA}, 3.0\text{V} \leq V_{IN} \leq 10\text{V}$	<b>1.470</b>	1.5	<b>1.530</b>	
		1117-1.8 $I_{OUT}=10\text{mA}, V_{IN}=3.8\text{V}, T_J=25^{\circ}\text{C}$	1.782	1.800	1.818	V
		$0\text{mA} \leq I_{OUT} \leq 800\text{mA}, 3.2\text{V} \leq V_{IN} \leq 10\text{V}$	<b>1.746</b>	1.800	<b>1.854</b>	
		1117-2.5 $I_{OUT}=10\text{mA}, V_{IN}=4.5\text{V}, T_J=25^{\circ}\text{C}$	2.475	2.500	2.525	V
		$0\text{mA} \leq I_{OUT} \leq 800\text{mA}, 3.9\text{V} \leq V_{IN} \leq 10\text{V}$	<b>2.450</b>	2.500	<b>2.550</b>	
		1117-2.85 $I_{OUT}=10\text{mA}, V_{IN}=4.85\text{V}, T_J=25^{\circ}\text{C}$	2.82	2.85	2.88	V
$0\text{mA} \leq I_{OUT} \leq 800\text{mA}, 4.25\text{V} \leq V_{IN} \leq 10\text{V}$	<b>2.79</b>	2.85	<b>2.91</b>			
$0\text{mA} \leq I_{OUT} \leq 800\text{mA}, V_{IN}=4.1\text{V}$	<b>2.79</b>	2.85	<b>2.91</b>			
Output Voltage	$V_{OUT}$	1117-3.3 $I_{OUT}=10\text{mA}, V_{IN}=5\text{V}, T_J=25^{\circ}\text{C}$	3.267	3.3	3.333	V
		$0\text{mA} \leq I_{OUT} \leq 800\text{mA}, 4.75\text{V} \leq V_{IN} \leq 10\text{V}$	<b>3.235</b>	3.3	<b>3.365</b>	
Output Voltage	$V_{OUT}$	1117-5.0 $I_{OUT}=10\text{mA}, V_{IN}=7\text{V}, T_J=25^{\circ}\text{C}$	4.95	5.0	5.05	V
		$0\text{mA} \leq I_{OUT} \leq 800\text{mA}, 6.5\text{V} \leq V_{IN} \leq 12\text{V}$	<b>4.9</b>	5.0	<b>5.1</b>	
Line regulation	$\Delta V_{OUT}$	1117-ADJ $I_{OUT}=10\text{mA}, 1.5\text{V} \leq V_{IN}-V_{OUT} \leq 13.75\text{V}$		0.035	<b>0.2</b>	%
		1117-1.5 $I_{OUT}=10\text{mA}, 1.5\text{V} \leq V_{IN}-V_{OUT} \leq 10\text{V}$		<b>1</b>	<b>6</b>	mV
		1117-1.8 $I_{OUT}=10\text{mA}, 3.2\text{V} \leq V_{IN}-V_{OUT} \leq 10\text{V}$		<b>1</b>	<b>6</b>	mV

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Line regulation	$\Delta V_{OUT}$	1117-2.5 $I_{OUT}=10mA, 3.9V \leq V_{IN}-V_{OUT} \leq 10V$		<b>1</b>	<b>6</b>	mV
		1117-2.85 $I_{OUT}=10mA, 4.25V \leq V_{IN}-V_{OUT} \leq 10V$		<b>1</b>	<b>6</b>	mV
		1117-3.3 $I_{OUT}=10mA, 4.75V \leq V_{IN}-V_{OUT} \leq 15V$		<b>1</b>	<b>6</b>	mV
		1117-5.0 $I_{OUT}=10mA, 6.5V \leq V_{IN}-V_{OUT} \leq 15V$		<b>1</b>	<b>10</b>	mV
Load regulation	$\Delta V_{OUT}$	1117-ADJ $V_{IN}-V_{OUT}=3V, 10 \leq I_{OUT} \leq 800mA$		0.2	<b>0.4</b>	%
		1117-1.5 $V_{IN}-V_{OUT}=2V, 10 \leq I_{OUT} \leq 800mA$		1	<b>10</b>	mV
		1117-1.8 $V_{IN}=3.2V, 0 \leq I_{OUT} \leq 800mA$		1	<b>10</b>	mV
		1117-2.5 $V_{IN}=3.9V, 0 \leq I_{OUT} \leq 800mA$		1	<b>10</b>	mV
		1117-2.85 $V_{IN}=4.25V, 0 \leq I_{OUT} \leq 800mA$		1	<b>10</b>	mV
		1117-3.3 $V_{IN}=4.75V, 0 \leq I_{OUT} \leq 800mA$		1	<b>10</b>	mV
		1117-5.0 $V_{IN}=6.5V, 0 \leq I_{OUT} \leq 800mA$		1	<b>15</b>	mV
Dropout Voltage	$V_{IN}-V_{OUT}$	$I_{OUT}=100mA$ $I_{OUT}=500mA$ $I_{OUT}=800mA$		1.1 1.15 1.2	<b>1.25</b> <b>1.3</b> <b>1.4</b>	V
Current Limit	$I_{LIMIT}$	$V_{IN}-V_{OUT}=5V, T_J=25^\circ C$	800	1200	1500	mA
Minimum Load Current		1117-ADJ $V_{IN}=15V$		1.7	5	mA



Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Quiescent Currnt		1117-1.5 $V_{IN}-V_{OUT}=2V$		5	10	mA
		1117-1.8 $V_{IN} \leq 15V$		5	10	mA
		1117-2.5 $V_{IN} \leq 15V$		5	<b>10</b>	mA
		1117-2.85 $V_{IN} \leq 10V$		5	<b>10</b>	mA
		1117-3.3 $V_{IN} \leq 15V$		5	<b>10</b>	mA
		1117-5.0 $V_{IN} \leq 15V$		5	<b>10</b>	mA
Thermal Regulation		$T_A=25^{\circ}C, 30ma$ Pulse		0.01	0.1	%/W
Ripple Regulation	$I_{LIMIT}$	$f_{RIPPLE}=120Hz, V_{IN}-V_{OUT}=3V, V_{RIPPLE}=1V_{PP}$	60	75		dB
Ajust Pin Current				60	120	uA
Ajust Pin Current Change		$10 \leq I_{OUT} \leq 800mA$		0.2	5	uA

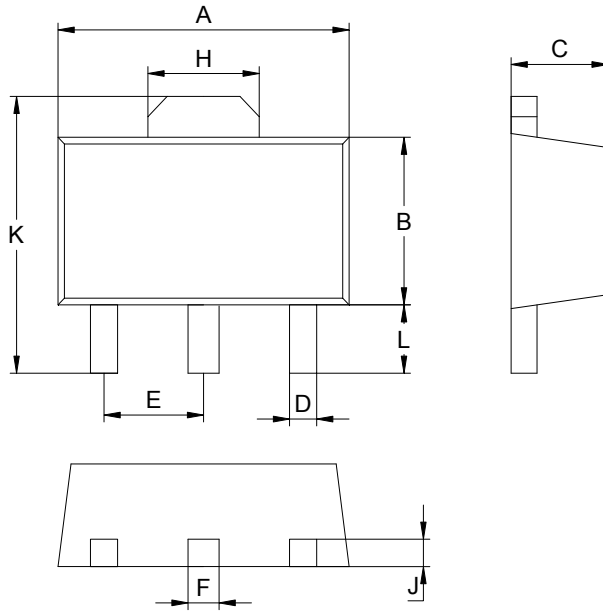
### TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified



### PACKAGE OUTLINE

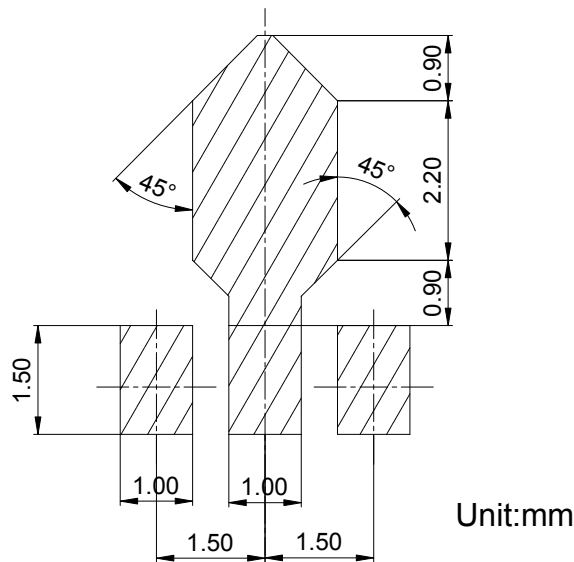
Plastic surface mounted package

SOT-89



SOT-89		
Dim	Min	Max
A	4.30	4.70
B	2.25	2.65
C	1.30	1.70
D	0.30	0.50
E	1.40	1.60
F	0.38	0.58
H	1.60	1.80
J	0.30	0.50
L	0.90	1.10
K	3.95	4.35
All Dimensions in mm		

### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

Device	Package	Shipping
1117-XX	SOT-89	1000/Tape&Reel