

ELECTRICAL CHARACTERISTICS

The ● denotes the specifications which apply over the full internal operating temperature range, otherwise specifications are at $T_A = 25^\circ\text{C}$, $\text{RUN} = 2\text{V}$ (Note 4).

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Minimum Input DC Voltage	$\text{RUN} = 2\text{V}$			3 2.8	V
V_{OUT} DC Voltage	$R_{\text{ADJ}} = 15.4\text{k}$ $R_{\text{ADJ}} = 8.25\text{k}$ $R_{\text{ADJ}} = 1.78\text{k}$	4.75	2.5 5 24	5.25	V V V
V_{IN} Quiescent Current	$V_{\text{RUN}} = 0\text{V}$ Not Switching		7	3	μA mA
V_{OUT} Line Regulation	$3\text{V} \leq V_{\text{IN}} \leq 40\text{V}$, $I_{\text{OUT}} = 0.1\text{A}$, $\text{RUN} = 2\text{V}$		1		%
V_{OUT} Load Regulation	$0.05\text{A} \leq I_{\text{OUT}} \leq 0.3\text{A}$, $\text{RUN} = 2\text{V}$		1		%
V_{OUT} Ripple (RMS)	$I_{\text{OUT}} = 0.1\text{A}$, 1MHz BW		30		mV
Isolation Voltage	(Note 3)		2		kV
Input Short-Circuit Current	V_{OUT} Shorted		80		mA
RUN Pin Input Threshold	RUN Pin Falling	1.18	1.214	1.25	V
RUN Pin Current	$V_{\text{RUN}} = 1\text{V}$ $V_{\text{RUN}} = 1.3\text{V}$		2.5	0.1	μA μA

Note 1: Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. Exposure to any Absolute Maximum Rating condition for extended periods may affect device reliability and lifetime.

Note 2: $V_{\text{IN}} + V_{\text{OUT}}$ is defined as the sum of $(V_{\text{IN}} - \text{GND}) + (V_{\text{OUT}} - V_{\text{OUTN}})$.

Note 3: The LTM8067 isolation test voltage of either 2kVAC or its equivalent of 2.83kVDC is applied for one second.

Note 4: The LTM8067E is guaranteed to meet performance specifications from 0°C to 125°C . Specifications over the -40°C to 125°C internal temperature range are assured by design, characterization and correlation

with statistical process controls. LTM8067I is guaranteed to meet specifications over the full -40°C to 125°C internal operating temperature range. Note that the maximum internal temperature is determined by specific operating conditions in conjunction with board layout, the rated package thermal resistance and other environmental factors.

Test flowcharts are posted for viewing at.

www.linear.com/quality

ELECTRICAL CHARACTERISTICS

The ● denotes the specifications which apply over the full internal operating temperature range, otherwise specifications are at $T_A = 25^\circ\text{C}$, $\text{RUN} = 2\text{V}$ (Note 4).

PARAMETER	CONDITIONS		MIN	TYP	MAX	UNITS
Minimum Input DC Voltage	$\text{RUN} = 2\text{V}$	●			3 2.8	V
V_{OUT1} DC Voltage	$R_{\text{FB1}} = 15.4\text{k}$	●	4.75	2.5		V
	$R_{\text{FB1}} = 8.25\text{k}$			5	5.25	V
	$R_{\text{FB1}} = 2.37\text{k}$			18		V
V_{IN} Quiescent Current	$V_{\text{RUN}} = 0\text{V}$ Not Switching				3	μA
				7		mA
V_{OUT1} Line Regulation	$3\text{V} \leq V_{\text{IN}} \leq 40\text{V}$, $I_{\text{OUT}} = 0.1\text{A}$, $\text{RUN} = 2\text{V}$			1		%
V_{OUT1} Load Regulation	$0.05\text{A} \leq I_{\text{OUT}} \leq 0.3\text{A}$, $\text{RUN} = 2\text{V}$			1		%
V_{OUT1} Ripple (RMS)	$I_{\text{OUT}} = 0.1\text{A}$, 1MHz BW			30		mV
Isolation Voltage	(Note 3)			2		kV
Input Short-Circuit Current	V_{OUT1} Shorted			80		mA
RUN Pin Input Threshold	RUN Pin Falling		1.18	1.214	1.25	V
RUN Pin Current	$V_{\text{RUN}} = 1\text{V}$ $V_{\text{RUN}} = 1.3\text{V}$			2.5		μA
					0.1	μA
LDO (V_{OUT2}) Minimum Input DC Voltage	(Note 5)			1.5	2.3	V
V_{OUT2} Voltage Range	$V_{\text{OUT1}} = 16\text{V}$, R_{FB2} Open, No Load (Note 5) $V_{\text{OUT1}} = 16\text{V}$, $R_{\text{FB2}} = 41.2\text{k}$, No Load (Note 5)			1.22		V
				17.7		V
FB2 Pin Voltage	$V_{\text{OUT1}} = 2\text{V}$, $I_{\text{OUT2}} = 1\text{mA}$ (Note 5) $V_{\text{OUT1}} = 2\text{V}$, $I_{\text{OUT2}} = 1\text{mA}$ (Note 5)	●	1.19	1.22	1.25	V
						V
V_{OUT2} Line Regulation	$2\text{V} < V_{\text{OUT1}} < 16\text{V}$, $I_{\text{OUT2}} = 1\text{mA}$ (Note 5)			1	5	mV
V_{OUT2} Load Regulation	$V_{\text{OUT1}} = 5\text{V}$, $10\text{mA} \leq I_{\text{OUT2}} \leq 300\text{mA}$ (Note 5)			2	10	mV
LDO Dropout Voltage	$I_{\text{OUT2}} = 10\text{mA}$ (Note 5) $I_{\text{OUT2}} = 100\text{mA}$ (Note 5) $I_{\text{OUT2}} = 300\text{mA}$ (Note 5)				0.25	V
					0.34	V
					0.43	V
V_{OUT2} Ripple (RMS)	$C_{\text{BYP}} = 0.01\mu\text{F}$, $I_{\text{OUT2}} = 300\text{mA}$, BW = 100Hz to 100kHz (Note 5)			20		μV_{RMS}

Note 1: Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. Exposure to any Absolute Maximum Rating condition for extended periods may affect device reliability and lifetime.

Note 2: $V_{\text{IN}} + V_{\text{OUT1}}$ is defined as the sum of:

$$(V_{\text{IN}} - \text{GND}) + (V_{\text{OUT1}} - V_{\text{OUTN}})$$

Note 3: The LTM8068 isolation test voltage of either 2kVAC or its equivalent of 2.83kVDC is applied for one second.

Note 4: The LTM8068E is guaranteed to meet performance specifications from 0°C to 125°C . Specifications over the -40°C to 125°C internal temperature range are assured by design, characterization and correlation with statistical process controls. LTM8068I is guaranteed to meet specifications over the full -40°C to 125°C internal operating temperature range. Note that the maximum internal temperature is determined by specific operating conditions in conjunction with board layout, the rated package thermal resistance and other environmental factors.

Note 5: $V_{\text{RUN}} = 0\text{V}$ (Flyback not running), but the V_{OUT2} post regulator is powered by applying a voltage to V_{OUT1} .