CHANGE NOTIFICATION

Linear Technology Corporation
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January 9, 2011

PCN#: 010912

Dear Sir/Madam:

Subject: Notification of Change to LT3022 Datasheet

Please be advised that Linear Technology Corporation has changed the LT3022's maximum input reverse leakage current specification to optimize the production yields. The input reverse leakage current's maximum value has been increased from 20μA to 40μA in the Electrical Characteristics Table. This change has no impact on normal LT3022 operation and the new maximum value of 40μA is low enough to prevent any damage to the LT3022 or external circuitry. The LT3022 produces reverse leakage current if the LT3022's IN pin connects to a battery plugged in backwards or if the IN pin is pulled below its OUT pin or GND pin by up to 10V.

The product datasheet will reflect the changes as shown in the attached marked up datasheet page. There was no change made to the die.

The product shipped after February 9th, 2012 will be tested to the new limits.

Should you have any further questions, please feel free to contact me at 408-432-1900 ext. 2519, or by e-mail at NGirn@Linear.com. If I do not hear from you by February 9th, 2012, we will consider this change to be approved by your company.

Sincerely,

Naib Girn
Quality Assurance Manager

Confidential Statement
This change notice is for Linear Technology's Customers only.
Distribution or notification to third parties is prohibited

Changed to 40

ELECTRICAL CHARACTERISTICS

The ● denotes the specifications which apply over the full operating temperature range, otherwise specifications are at T_A = 25°C.

Ripple Rejection (Note 13)	LT3022	$V_{IN} - V_{OUT}$ = 1V, V_{RIPPLE} = 0.5V_{P-P}, f_{RIPPLE} = 120Hz, I_{LOAD} = 1A		55	70	dB
	LT3022-1.2	$V_{IN} - V_{OUT}$ = 1V, V_{RIPPLE} = 0.5V_{P-P}, f_{RIPPLE} = 120Hz, I_{LOAD} = 1A		51	66	dB
	LT3022-1.5	$V_{IN} - V_{OUT}$ = 1V, V_{RIPPLE} = 0.5V_{P-P}, f_{RIPPLE} = 120Hz, I_{LOAD} = 1A		51	66	dB
	LT3022-1.8	$V_{IN} - V_{OUT}$ = 1V, V_{RIPPLE} = 0.5V_{P-P}, f_{RIPPLE} = 120Hz, I_{LOAD} = 1A		51	66	dB
Current Limit (Note 9)		V_{IN} = 10V, V_{OUT} = 0V V_{IN} = $V_{OUT(NOMINAL)}$ + 0.5V, $\Delta V_{OUT} \leq$ –5%	 ●	 1.1	2.6 1.7	A A
Input Reverse Leakage Current (Note 14)		V_{IN} = –10V, V_{OUT} = 0V			4 20	µA
Reverse Output Current (Notes 15, 16)	LT3022 LT3022-1.2 LT3022-1.5 LT3022-1.8	V_{OUT} = 1.2V, V_{IN} = 0V V_{OUT} = 1.2V, V_{IN} = 0V V_{OUT} = 1.5V, V_{IN} = 0V V_{OUT} = 1.8V, V_{IN} = 0V			0.1 5 0.1 5 0.1 5 0.1 5	µA µA µA µA
Minimum Required Output Current		V_{IN} = 1.6V, V_{OUT} = 1.2V	●	1		mA

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: The LT3022 regulator is tested and specified under pulse load conditions such that $T_J \approx T_A$. The LT3022 is 100% tested at T_A = 25°C. Performance of the LT3022E over the full –40°C and 125°C operating junction temperature range is assured by design, characterization and correlation with statistical process controls. The LT3022I regulators are guaranteed over the full –40°C to 125°C operating junction temperature range. High junction temperatures degrade operating lifetime. Operating lifetime is derated at junction temperatures greater than 125°C.

Note 3: This IC includes overtemperature protection that is intended to protect the device during momentary overload conditions. Junction temperature will exceed 125°C when overtemperature protection is active. Continuous operation above the specified maximum operating junction temperature may impair device reliability.

Note 4: Minimum input voltage is the voltage required by the LT3022 to regulate the output voltage and supply the rated 1A output current. This specification is tested at V_{OUT} = 0.2V. For higher output voltages, the minimum input voltage required for regulation equals the regulated output voltage V_{OUT} plus the dropout voltage or 1.1V, whichever is greater.

Note 5: Maximum junction temperature limits operating conditions. The regulated output voltage specification does not apply for all possible combinations of input voltage and output current. Limit the output current range if operating at maximum input voltage. Limit the input-to-output voltage differential range if operating at maximum output current.

Note 6: The LT3022 typically supplies 1A output current with a 0.9V input supply. The guaranteed minimum input voltage for 1A output current is 1.10V, especially if cold temperature operation is required.

Note 7: The LT3022 is tested and specified for these conditions with ADJ tied to OUT. Specifications for fixed output voltage devices are referred to the output voltage.

Note 8: Dropout voltage is the minimum input to output voltage differential needed to maintain regulation at a specified output current. In dropout the output voltage equals: ($V_{IN} - V_{DROPOUT}$).

Note 9: The LT3022 is tested and specified for these conditions with an external resistor divider (3.92k and 19.6k) setting V_{OUT} to 1.2V. The external resistor divider adds 50µA of load current.

Note 10: GND pin current is tested with V_{IN} = $V_{OUT(NOMINAL)}$ + 0.4V and a current source load. GND pin current increases in dropout. See GND pin current curves in the Typical Performance Characteristics section.

Note 11: Adjust pin bias current flows out of the ADJ pin.

Note 12: Shutdown pin current flows into the $\overline{SHDN}$ pin.

Note 13: The LT3022 is tested and specified for this condition with an external resistor divider (3.92k and 5.9k) setting V_{OUT} to 0.5V. The external resistor divider adds 50µA of load current. The specification refers to the change in the 0.2V reference voltage, not the 0.5V output voltage. Specifications for fixed output voltage devices are referred to the output voltage.

Note 14: Input reverse leakage current flows out of the IN pin.

Note 15: Reverse output current is tested with IN grounded and OUT forced to the rated output voltage. This current flows into the OUT pin and out of the GND pin.

Note 16: Reverse current is higher for the case of (rated_output) < V_{OUT} < V_{IN}, because the no-load recovery circuitry is active in this region and is trying to restore the output voltage to its nominal value.