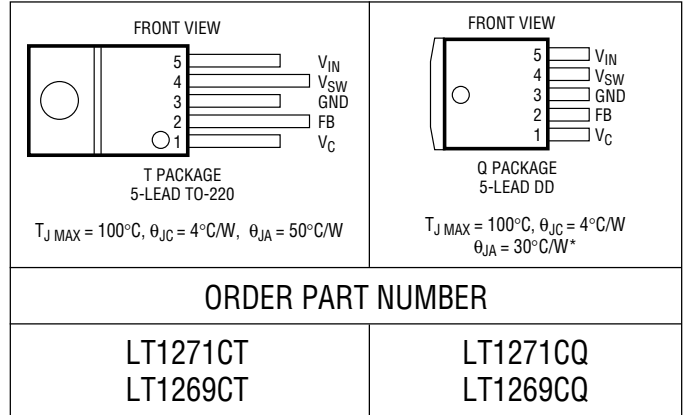


ABSOLUTE MAXIMUM RATINGS

Supply Voltage 30V
 Switch Output Voltage 60V
 Feedback Pin Voltage (Transient, 1ms) ±15V
 Operating Junction Temperature Range
 (Oper.) 0°C to +100°C
 (Short Ckt.) 0°C to +125°C
 Storage Temperature Range -65°C to +150°C
 Lead Temperature (Soldering, 10 sec.) 300°C

PACKAGE/ORDER INFORMATION



ORDER PART NUMBER

LT1271CT
LT1269CT

LT1271CQ
LT1269CQ

*With device soldered to 1/2 square inch of 1oz copper over backside or internal layer ground plane.

ELECTRICAL CHARACTERISTICS V_{IN} = 15V, V_C = 0.5V, V_{FB} = V_{REF}, switch pin open, unless otherwise noted.

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS	
V _{REF}	Reference Voltage	Measured at Feedback Pin V _C = 0.8V	●	1.224	1.244	1.264	V
			●	1.214	1.244	1.274	V
I _B	Feedback Input Current	V _{FB} = V _{REF}	●		350	750	nA
			●			1100	nA
g _m	Error Amplifier Transconductance	ΔI _C = ±25μA	●	3000	4400	6000	μmho
			●	2400		7000	μmho
	Error Amplifier Source or Sink Current	V _C = 1.5V	●	150	200	350	μA
			●	120		400	μA
	Error Amplifier Clamp Voltage	Hi Clamp, V _{FB} = 1V Lo Clamp, V _{FB} = 1.5V	●	1.8		2.3	V
			●	0.25	0.38	0.52	V
	Reference Voltage Line Regulation	3V ≤ V _{IN} ≤ V _{MAX} , V _C = 0.8V	●		0.03	%/V	
A _V	Error Amplifier Voltage Gain	0.9V ≤ V _C ≤ 1.4V	●	500	800		V/V
			●		2.8	3.0	V
I _Q	Supply Current	3V ≤ V _{IN} ≤ V _{MAX} , V _C = 0.6V	●		7	10	mA
			●	0.7	0.9	1.08	V
			●	0.5		1.25	V
	Normal/Flyback Threshold on Feedback Pin		●	0.4	0.45	0.54	V
V _{FB}	Flyback Reference Voltage	I _{FB} = 50μA	●	15	16.3	17.6	V
			●	14		18	V
V _{FB}	Change in Flyback Reference Voltage	0.05 ≤ I _{FB} ≤ 1mA	●	4.5	6.8	8.5	V
	Flyback Reference Voltage Line Regulation	I _{FB} = 50μA 3V ≤ V _{IN} ≤ V _{MAX}	●		0.01	0.03	%/V
	Flyback Amplifier Transconductance (g _m)	ΔI _C = ±10μA	●	150	300	650	μmho
	Flyback Amplifier Source and Sink Current	V _C = 0.6V I _{FB} = 50μA	●	15	32	70	μA
			●	25	40	70	μA

ELECTRICAL CHARACTERISTICS $V_{IN} = 15V$, $V_C = 0.5V$, $V_{FB} = V_{REF}$, switch pin open, unless otherwise noted.

SYMBOL	PARAMETER	CONDITIONS		MIN	TYP	MAX	UNITS
BV	Output Switch Breakdown Voltage	$3V \leq V_{IN} \leq V_{MAX}$ $I_{SW} = 1.5mA$	●	60	75		V
V_{SAT}	Output Switch (Note 1) "On" Resistance		●		0.2	0.33	Ω
	Control Voltage to Switch Current Transconductance				6.4		A/V
I_{LIM}	Switch Current Limit (Note 2)	Duty Cycle = 50% Duty Cycle = 80%	● ●	4 3.2		8 8	A A
$\frac{\Delta I_{IN}}{\Delta I_{SW}}$	Supply Current Increase During Switch On-Time				25	40	mA/A
f	Switching Frequency	LT1271 LT1269	● ●	50 85	60 100	70 115	kHz kHz
DC (max)	Maximum Switch Duty Cycle	LT1271 LT1269		85 80	92 90	95 95	% %
	Flyback Sense Delay Time				1.5		μs
	Shutdown Mode Supply Current	$3V \leq V_{IN} \leq V_{MAX}$, $V_C = 0.05V$			100	400	μA
	Shutdown Mode Threshold Voltage	$3V \leq V_{IN} \leq V_{MAX}$	●	100 50	150	250 300	mV mV

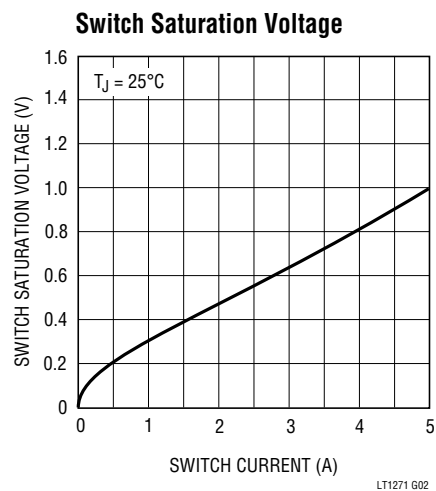
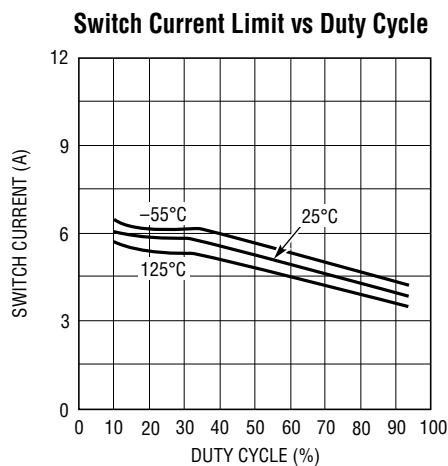
The ● denotes the specifications which apply over the full operating temperature range.

Note 1: Measured with V_C in hi clamp, $V_{FB} = 0.8V$.

Note 2: For duty cycles (DC) between 50% and 85%, minimum guaranteed switch current is given by $I_{LIM} = 2.67(2 - DC)$.

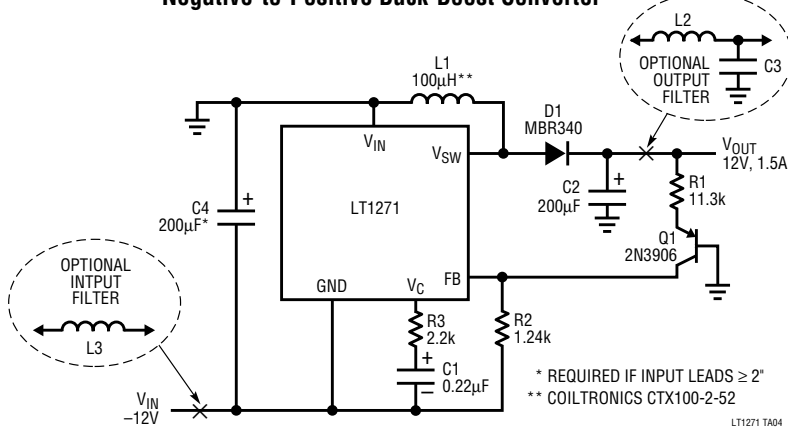
Note 3: Minimum input voltage.

TYPICAL PERFORMANCE CHARACTERISTICS

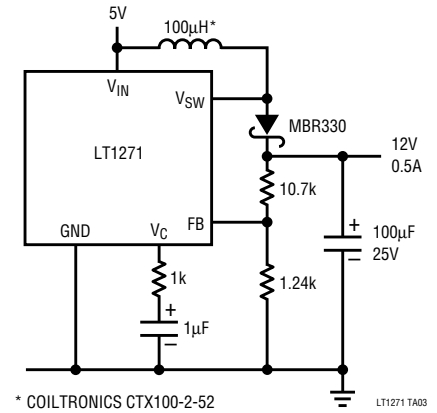


TYPICAL APPLICATIONS

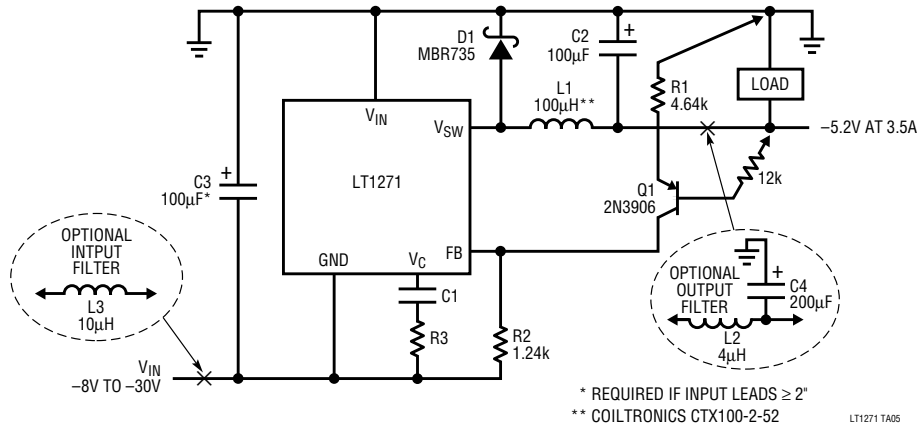
Negative-to-Positive Buck-Boost Converter



Boost Converter (5V to 12V)



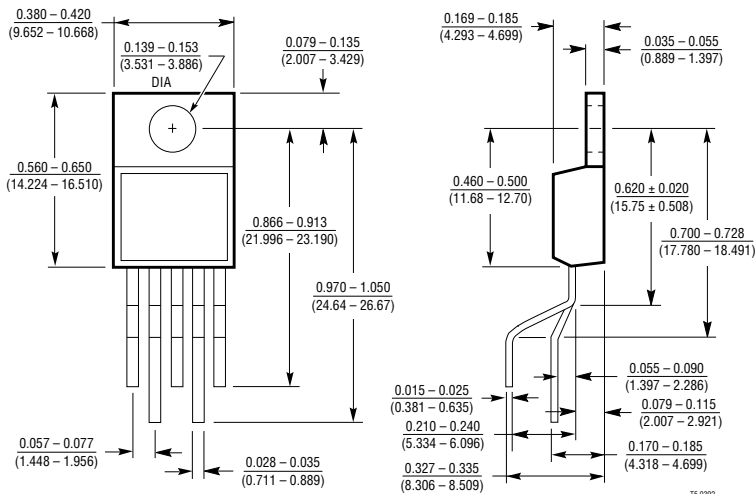
Negative Buck Converter



PACKAGE DESCRIPTION

Dimensions in inches (millimeters) unless otherwise noted.

**T Package
5-Lead TO-220**



**Q Package
5-Lead DD**

