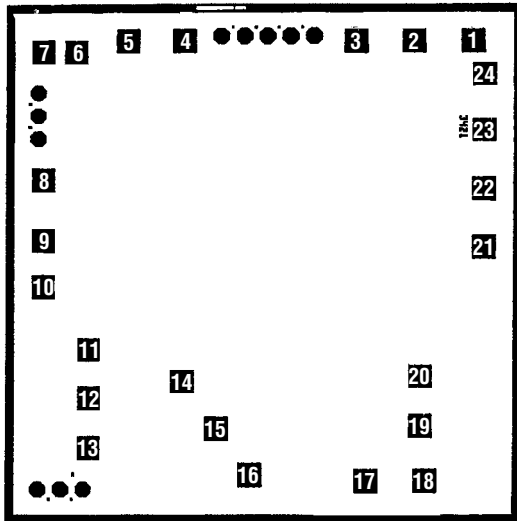


**3A, 3MHz Micropower
 Synchronous Boost Converter
 with Output Disconnect**



84 × 84 mils

PAD FUNCTION

- | | |
|---------------------|-----------------------|
| 1. FB | 13. PGND |
| 2. SHDN | 14. SW |
| 3. V _{REF} | 15. SW |
| 4. ENB | 16. SW |
| 5. R _T | 17. V _{OUT} |
| 6. SS | 18. V _{OUTS} |
| 7. SYNC | 19. V _{OUT} |
| 8. I _{LIM} | 20. V _{OUT} |
| 9. BURST | 21. V _{IN} |
| 10. GND | 22. LBO |
| 11. PGND | 23. LBI |
| 12. PGND | 24. V _C |

DIE CROSS REFERENCE

LTC Finished Part Number	Order DICE CANDIDATE Part Number Below
LTC [®] 3421 LTC3421	LTC3421 DICE LTC3421 DWF

 LTC and LT are registered trademarks of Linear Technology Corporation. All other trademarks are the property of their respective owners.

ABSOLUTE MAXIMUM RATINGS

(Note 1)

V_{IN}, V_{OUT}, V_{OUTS} Voltage -0.3V to 6V
 BURST, SHDN, SS, ENB, SW,
 LBO, LBI, SYNC Voltages -0.3V to 6V

DICE ELECTRICAL TEST LIMITS V_{IN} = 1.2V, V_{OUT} = 3.3V, R_T = 56k, unless otherwise noted.

PARAMETER	CONDITIONS	MIN	MAX	UNITS
Minimum V _{IN} Start-Up Voltage	I _{LOAD} < 1mA		1	V
Minimum V _{IN} Operating Voltage	(Note 3)		0.5	V
Output Voltage Adjust Range		2.25	5.25	V
Feedback Voltage		1.196	1.244	V
Feedback Input Current	V _{FB} = 1.22V		50	nA
Quiescent Current—Burst Mode Operation	V _C = 0V, ENB = 0V (Note 2) V _C = 0V, ENB = 2V (Note 2)		20 50	μA μA
Quiescent Current—Shutdown	SHDN = 0V, ENB = 0V SHDN = 0V, ENB > 1.4V		1 2	μA μA
Quiescent Current—Active	(Note 2)		1.1	mA
NMOS Switch Leakage			5	μA
NMOS Switch On Resistance				Ω
PMOS Switch On Resistance				Ω

DICE/DWF SPECIFICATION

LTC3421

DICE ELECTRICAL TEST LIMITS $V_{IN} = 1.2V$, $V_{OUT} = 3.3V$, $R_T = 56k$, unless otherwise noted.

PARAMETER	CONDITIONS	MIN	MAX	UNITS
NMOS Current Limit	I_{LIM} Resistor = 105k	1		A
Max Duty Cycle		84		%
Min Duty Cycle			0	%
Frequency Accuracy		418	582	kHz
SYNC Input High		2.2		V
SYNC Input Low			0.8	V
SYNC Input Current			1	μA
ENB Input High		1.2		V
ENB Input Low			0.4	V
ENB Input Current			1	μA
\overline{SHDN} Input High	$V_{OUT} = 0V$ (Initial Start-Up) $V_{OUT} > 2.4V$	1.00		V
		0.65		V
\overline{SHDN} Input Low			0.25	V
\overline{SHDN} Input Current			1	μA
REF Output Voltage		1.183	1.257	V
REF Output Current Range		-100	8	μA
Error Amp Transconductance				μS
LBI Threshold	Falling Edge	0.58	0.62	V
LBI Input Current			1	μA
\overline{LBO} Low Voltage	$V_{IN} = 0V$, $I_{SINK} = 1mA$ $V_{IN} = 0V$, $I_{SINK} = 20mA$		50	mV
			0.5	V
\overline{LBO} Leakage	$V_{PGOOD} = 5.5V$		1	μA
SS Current Source	$V_{SS} = 1V$	1.2	5	μA
BURST Threshold Voltage	Falling Edge	0.87	1.07	V

Note 1: Absolute Maximum Ratings are those values beyond which the life of a device may be impaired.

Note 2: Current is measured into the V_{OUTS} pin since the supply current is bootstrapped to the output. The current will reflect to the input supply by $(V_{OUT}/V_{IN}) \cdot \text{Efficiency}$. The outputs are not switching.

Note 3: Once V_{OUT} is greater than 2.4V, the IC is not dependent on the V_{IN} supply.

Wafer level testing is performed per the indicated specifications for dice. Considerable differences in performance can often be observed for dice versus packaged units due to the influences of packaging and assembly on certain devices and/or parameters. Please consult factory for more information on dice performance and lot qualifications via lot sampling test procedures.

Dice data sheet subject to change. Please consult factory for current revision in production.

I.D.No. 66-13-3421