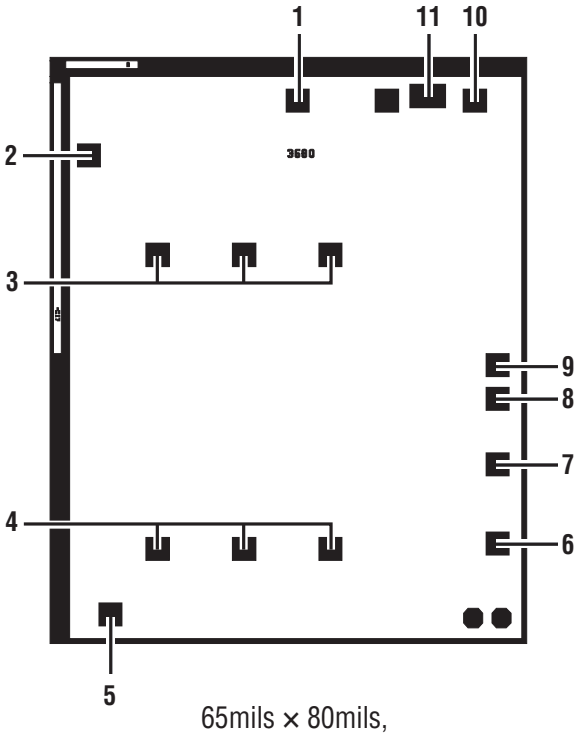
LT3680
36V, 3.5A, 2.4MHz Step-Down Switching Regulator with 75µA Quiescent Current



65mils × 80mils,
?mils thick.
Backside metal: ?
Backside potential: ?

PAD FUNCTION

1. BD
2. BOOST
3. SW
4. V_{IN}
5. RUN/SS
6. SYNC
7. PG
8. FB
9. V_C
10. RT
11. GND

DIE CROSS REFERENCE

LT® Finished Part Number	Order Part Number
LT®3680 LT3680	LT3680DICE LT3680DWF*

Please refer to ADI standard product data sheet for other applicable product information.
***DWF = DICE in wafer form.**

ABSOLUTE MAXIMUM RATINGS

(Note 1)

V_{IN}, RUN/SS Voltage.....36V
BOOST Pin Voltage 56V
BOOST Pin Above SW Pin.....30V
FB, RT, V_C Voltage 5V
PG, BD, SYNC Voltage 30V

DICE/DWF ELECTRICAL TEST LIMITS

T_A = 25°C. V_{IN} = 10V, unless otherwise noted.

PARAMETER	CONDITIONS	MIN	MAX	UNITS
Quiescent Current from V_{IN}	$V_{RUN/SS}$ = 0.2V		0.5	µA
	V_{BD} = 0, Not Switching		160	µA
Quiescent Current from BD	$V_{RUN/SS}$ = 0.2V		0.5	µA
	V_{BD} = 0, Not Switching		5	µA
Minimum Bias Voltage (BD Pin)			3	V
Feedback Voltage		780	800	mV
FB Voltage Line Regulation	4V < V_{IN} < 36V		0.01	%/V
Switching Frequency	R_T = 8.66k R_T = 29.4k R_T = 187k	2.2 1.0 200	2.7 1.25 260	MHz MHz kHz
Boost Schottky Reverse Leakage	V_{BOOST} = 10V, V_{BD} = 0V		2	µA
BOOST Pin Current	I_{SW} = 1A		50	mA
RUN/SS Pin Current	$V_{RUN/SS}$ = 2.5V		8	µA
RUN/SS Input Voltage High			2.5	V
RUN/SS Input Voltage Low		0.2		V
PG Leakage	V_{PG} = 5V		1	µA
SYNC Low Threshold		0.5		V
SYNC High Threshold			0.7	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.

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. 66-13-3680

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