

LTC3636 25C Comparison Data current die versus new die version

Item #	DataSheet Description	Current Die Lot 1							Current Die Lot 2							New Die Lot							Lower Limit	Upper Limit	Unit
		Count	Mean	Std Dev	Min	Max	CP	CPK	Count	Mean	Std Dev	Min	Max	CP	CPK	Count	Mean	Std Dev	Min	Max	CP	CPK			
1	VFB1 - Feedback Reference Voltage	8381	601.4	0.7753	600.0	603.0	2.580	1.980	9167	601.4	0.7797	599.9	603.0	2.565	1.977	3119	601.4	0.7738	599.7	602.9	2.585	1.991	594	606	mV
2	VFB2 - Feedback Reference Voltage	8381	601.4	0.7851	599.3	602.9	2.547	1.938	9167	601.4	0.7864	599.3	603.0	2.543	1.935	3119	601.4	0.7846	599.6	602.9	2.549	1.953	594	606	mV
3	IFB1 - Feedback Pin Input Current	8381	0.0320	0.0242	0.0	0.1574	413.6	413.2	9167	0.0387	0.0378	0.0	2.063	264.6	264.2	3119	0.1069	0.0787	0.0	1.935	127.1	126.7	-30	30	nA
4	IFB2 - Feedback Pin Input Current	8381	0.0377	0.0287	0.0	0.6668	348.7	348.3	9167	0.0403	0.0335	0.0	1.274	298.8	298.4	3119	0.0670	0.1028	0.0	4.625	97.29	97.08	-30	30	nA
5	tON1 - Minimum On Time	8381	22.07	0.5148	19.62	23.52		8.374	9167	20.57	0.5521	17.85	22.15		8.711	3119	21.41	0.5918	18.26	22.76		7.652		35	nS
6	tON2 - Minimum On Time	8381	21.96	0.4888	19.58	23.46		8.892	9167	20.43	0.5575	17.60	21.98		8.710	3119	21.39	0.6676	18.21	22.88		6.794		35	nS
7	fOSC - Oscillator Frequency, VRT = INTVCC	8381	2.058	0.0828	1.775	2.263	2.416	2.182	9167	2.137	0.1057	1.824	2.357	1.892	1.461	3119	2.100	0.0989	1.819	2.326	2.023	1.685	1.4	2.6	MHz
8	fOSC - Oscillator Frequency, RT = 162k	8381	2.081	0.0796	1.836	2.223	1.256	0.9163	9167	2.076	0.0988	1.827	2.223	1.013	0.7574	3119	2.080	0.0983	1.830	2.220	1.018	0.7447	1.7	2.3	MHz
9	fOSC - Oscillator Frequency, RT = 80.6k	8381	4.184	0.1532	3.621	4.494	1.305	0.9052	9167	4.139	0.2034	3.592	4.459	0.9832	0.7557	3119	4.138	0.2022	3.595	4.431	0.9893	0.7615	3.4	4.6	MHz
10	ILIM1 - Valley Switch Current Limit	8381	6.613	0.1414	6.238	7.094	1.415	1.385	9167	6.620	0.1411	6.240	7.076	1.418	1.370	3119	6.624	0.1432	6.243	6.978	1.397	1.341	6	7.2	A
11	ILIM2 - Valley Switch Current Limit	8381	6.607	0.1434	6.229	7.027	1.395	1.378	9167	6.616	0.1415	6.224	7.099	1.414	1.377	3119	6.612	0.1406	6.210	6.972	1.422	1.393	6	7.2	A
12	ISW(LKG) - Switch Leakage Current, VIN = 20V, VRUN = 0V, SW1 = 0V	8381	-0.0264	0.0047	-0.1386	-0.0170	70.19	68.34	9167	-0.0304	0.0063	-0.1490	-0.0173	53.32	51.70	3119	-0.0482	0.0149	-0.2718	-0.0224	22.34	21.26	-1	1	uA
13	ISW(LKG) - Switch Leakage Current, VIN = 20V, VRUN = 0V, SW1 = 20V	8381	0.0799	0.0072	0.0262	0.1028	46.54	42.82	9167	0.0660	0.0078	0.0205	0.0930	42.92	40.08	3119	0.2348	0.0726	0.1486	0.4997	4.591	3.513	-1	1	uA
14	ISW(LKG) - Switch Leakage Current, VIN = 20V, VRUN = 0V, SW2 = 0V	8381	0.0475	0.0032	0.0262	0.1784	104.7	99.70	9167	0.0413	0.0035	0.0300	0.0569	96.61	92.62	3119	0.1988	0.0653	0.1246	0.4567	5.106	4.091	-1	1	uA
15	ISW(LKG) - Switch Leakage Current, VIN = 20V, VRUN = 0V, SW2 = 20V	8381	-0.1192	0.0053	-0.1936	-0.1044	63.17	55.64	9167	-0.1177	0.0068	-0.2283	-0.1007	49.26	43.46	3119	-0.1773	0.0287	-0.4926	-0.1356	11.60	9.544	-1	1	uA
16	VIN Overvoltage Lockout Threshold, VIN Falling	8381	21.29	0.1303	20.80	21.70	2.813	2.539	9167	21.31	0.1347	20.80	21.80	2.721	2.498	3119	21.34	0.1293	20.90	21.80	2.836	2.684	20.3	22.5	V
17	INTVCC, VIN = 3.6V, 0mA Load	8381	3.314	0.0447	3.159	3.446	1.492	1.386	9167	3.311	0.0449	3.162	3.440	1.486	1.407	3119	3.310	0.0444	3.176	3.441	1.503	1.429	3.1	3.5	V
18	INTVCC, VIN = 20V, 0mA Load	8381	3.316	0.0447	3.159	3.448	1.490	1.375	9167	3.312	0.0449	3.164	3.439	1.485	1.396	3119	3.311	0.0444	3.179	3.442	1.502	1.418	3.1	3.5	V
19	INTVCC Undervoltage Lockout Threshold INTVCC Rising, VIN = INTVCC	8381	2.687	0.0080	2.660	2.720		8.892	9167	2.680	0.0088	2.650	2.710		8.355	3119	2.680	0.0086	2.650	2.710		8.528		2.9	V
20	RUN2 Threshold Rising (RUN2 < 1.16V)	8381	0.1074	0.0019	0.1006	0.1156		33.05	9167	0.1137	0.0022	0.1054	0.1231		28.11	3119	0.1097	0.0019	0.1034	0.1181		32.99		0.3	mA
21	RUN2 Threshold Rising (RUN2 > 1.28V)	8381	2.452	0.0583	2.256	2.693		11.15	9167	2.496	0.2313	0.9959	2.772		2.878	3119	2.545	0.0760	1.004	2.783		8.962	0.5		mA
22	RUN2 Threshold Falling (RUN2 > 1.06V)	8381	2.441	0.0585	2.259	2.680		11.07	9167	2.484	0.2310	0.9353	2.773		2.863	3119	2.534	0.0763	1.021	2.777		8.888	0.5		mA
23	RUN2 Threshold Falling (RUN2 < 0.96V)	8381	0.1039	0.0019	0.0975	0.1122		34.46	9167	0.1097	0.0022	0.1026	0.1173		29.23	3119	0.1071	0.0018	0.1014	0.1147		34.87		0.3	mA
24	RUN1 Threshold Rising (RUN1 < 1.16V)	8381	0.1144	0.0020	0.1064	0.1235		31.06	9167	0.1196	0.0023	0.1093	0.1292		26.31	3119	0.1125	0.0019	0.1049	0.1206		32.06		0.3	mA
25	RUN1 Threshold Rising (RUN1 > 1.28V)	8381	2.480	0.0607	2.288	2.818		10.87	9167	2.521	0.2313	1.024	2.806		2.913	3119	2.571	0.0776	1.035	2.797		8.899	0.5		mA
26	RUN1 Threshold Falling (RUN1 > 1.06V)	8381	2.464	0.0599	2.282	2.723		10.93	9167	2.503	0.2311	1.006	2.752		2.889	3119	2.556	0.0770	1.040	2.798		8.902	0.5		mA
27	RUN1 Threshold Falling (RUN1 < 0.96V)	8381	0.1070	0.0019	0.1008	0.1142		33.21	9167	0.1128	0.0022	0.1044	0.1206		28.14	3119	0.1083	0.0019	0.1018	0.1167		33.30		0.3	mA
28	RUN1 Leakage Current, 0V	8381	-0.0179	0.0045	-0.0277	0.1991	222.1	220.8	9167	-0.0195	0.0023	-0.0354	-0.0129	439.0	436.2	3119	-0.0158	0.0043	-0.0327	0.0037	230.1	228.9	-3	3	uA
29	RUN1 Leakage Current, 20V	8381	0.0573	0.0044	0.0073	0.2367	229.3	224.9	9167	0.0449	0.0039	0.0063	0.2295	255.2	251.3	3119	0.1162	0.0170	0.0925	0.1655	58.81	56.53	-3	3	uA
30	RUN2 Leakage Current, 0V	8381	0.0181	0.0046	-0.0005	0.0328	219.1	217.8	9167	0.0364	0.0040	-0.0165	0.0453	248.0	245.0	3119	0.0239	0.0045	0.0068	0.0334	223.2	221.4	-3	3	uA
31	RUN2 Leakage Current, 20V	8381	0.1048	0.0049	0.0769	0.1223	206.2	199.0	9167	0.1296	0.0067	0.1049	0.1585	149.6	143.1	3119	0.1853	0.0391	0.1394	0.3151	25.58	24.00	-3	3	uA
32	PGOOD Good-to-Bad Threshold, VFB1 Rising	8381	8.059	0.3450	6.967	9.000		1.875	9167	7.711	0.3443	6.636	8.994		2.216	3119	7.816	0.3369	6.635	8.999		2.161		10	%
33	PGOOD Good-to-Bad Threshold, VFB1 Falling	8381	-7.276	0.3316	-8.313	-5.989		2.737	9167	-7.102	0.3281	-8.316	-5.666		2.944	3119	-6.565	0.3239	-7.649	-5.645		3.534	-10		%
34	PGOOD Good-to-Bad Threshold, VFB2 Rising	8381	8.046	0.3439	6.639	8.998		1.894	9167	7.710	0.3510	6.303	8.994		2.175	3119	7.856	0.3331	6.639	8.996		2.146		10	%
35	PGOOD Good-to-Bad Threshold, VFB2 Falling	8381	-7.283	0.3274	-8.635	-5.993		2.766	9167	-7.171	0.3325	-8.631	-5.994		2.836	3119	-6.958	0.3294	-7.990	-5.977		3.079	-10		%
36	PGOOD Bad-to-Good Threshold, VFB1 Falling	8381	5.971	0.3307	4.811	7.000		2.995	9167	5.936	0.3341	4.811	7.162		2.929	3119	5.945	0.3274	4.811	6.997		2.998	3		%
37	PGOOD Bad-to-Good Threshold VFB1 Rising	8381	-5.652	0.3218	-6.806	-4.325		2.747	9167	-5.688	0.3214	-6.819	-4.333		2.788	3119	-6.207	0.4291	-7.473	-4.831		2.492		-3	%
38	PGOOD Bad-to-Good Threshold, VFB2 Falling	8381	5.951	0.3290	4.647	7.162		2.990	9167	5.917	0.3397	4.645	7.166		2.862	3119	5.929	0.3210	4.647	6.997		3.042	3		%
39	PGOOD Bad-to-Good Threshold VFB2 Rising	8381	-5.513	0.3179	-6.808	-4.328		2.635	9167	-5.625	0.3243	-6.972	-4.496		2.698	3119	-5.651	0.3125	-6.993	-4.664		2.828		-3	%
40	tPGOOD2 Power Good Filter Time	8381	34.16	1.405	29.47	39.20		3.360	9167	32.33	1.387	26.95	37.94		2.964	3119	33.08	1.288	28.59	37.63		3.386	20		uSec
41	tPGOOD1 Power Good Filter Time	8381	34.27	1.403	28.72	39.83		3.391	9167	32.40	1.399	26.97	38.01		2.955	3119	33.17	1.311	28.34	38.39		3.348	20		uSec
42	tSS1 Internal Soft-Start Time 10% to 90% Rise Time	8381	1010	54.10	843.4	1271		3.021	9167	951.3	53.05	780.8	1192		3.447	3119	986.4	52.31	805.2	1221		3.273		1500	uSec
43	tSS2 Internal Soft-Start Time 10% to 90% Rise Time	8381	990.6	55.43	794.4	1209		3.063	9167	935.0	54.49	756.8	1165		3.456	3119	973.4	53.03	789.8	1182		3.310		1500	uSec
44	VFB1 During Tracking TRACKSS = 0.3V	8381	296.7	3.179	285.3	308.7	1.835	1.754	9167	296.6	3.263	285.3	308.6	1.788	1.698	3119	296.9	3.133	286.2	307.6	1.862	1.800	280	315	mV
45	VFB2 During Tracking TRACKSS = 0.3V	8381	296.8	3.182	286.0	308.2	1.834	1.759	9167	297.0	3.251	285.1	309.4	1.794	1.744	3119	297.3	3.107	285.8	309.4	1.878	1.856	280	315	mV
46	VMODE/SYNC - MODE/SYNC Threshold Voltage, MODE VIH	8381	0.6513	0.0129	0.5998	0.8352		3.852	9167	0.6804	0.0153	0.6227	0.7714		2.613	3119	0.6647	0.0125	0.6271	0.7353		3.606		0.8	mA
47	VMODE/SYNC - MODE/SYNC Threshold Voltage, MODE VIL	8381	1.496	0.0835	1.220	1.828		1.981	9167	1.576	0.0854	1.317	1.966		2.247	3119	1.541	0.0833	1.276	1.851		2.167	1		mA

LTC3636 125C Comparison Data current die versus new die version

Item #	DataSheet Description	Current Die Lot 1							Current Die Lot 2							New Die Lot							Lower Limit	Upper Limit	Unit
		Count	Mean	Std Dev	Min	Max	CP	CPK	Count	Mean	Std Dev	Min	Max	CP	CPK	Count	Mean	Std Dev	Min	Max	CP	CPK			
1	VFB1 - Feedback Reference Voltage	1024	601.4	0.9108	599.1	604.2	2.196	1.691	1023	601.4	0.9082	598.9	603.7	2.202	1.681	3092	601.5	0.8903	598.8	604.6	2.246	1.690	594	606	mV
2	VFB2 - Feedback Reference Voltage	1024	601.8	0.9098	599.5	604.3	2.198	1.532	1023	601.7	0.9002	597.9	604.1	2.222	1.601	3092	601.8	0.9235	599.2	604.8	2.166	1.534	594	606	mV
20	RUN2 Threshold Rising (RUN2 < 1.16V)	1024	0.1580	0.0024	0.1518	0.1662		19.52	1023	0.1654	0.0029	0.1556	0.1739		15.71	3092	0.1695	0.0026	0.1605	0.1794		16.89		0.3	mA
21	RUN2 Threshold Rising (RUN2 > 1.28V)	1024	1.729	0.1435	1.293	2.175		2.855	1023	1.770	0.1593	1.348	2.260		2.657	3092	1.757	0.1610	1.369	2.253		2.602	0.5		mA
22	RUN2 Threshold Falling (RUN2 > 1.06V)	1024	1.618	0.1524	1.276	2.094		2.445	1023	1.738	0.1588	1.345	2.249		2.599	3092	1.704	0.1553	1.342	2.255		2.583	0.5		mA
23	RUN2 Threshold Falling (RUN2 < 0.96V)	1024	0.1555	0.0024	0.1493	0.1638		20.15	1023	0.1626	0.0028	0.1539	0.1703		16.20	3092	0.1668	0.0025	0.1585	0.1770		17.79		0.3	mA
24	RUN1 Threshold Rising (RUN1 < 1.16V)	1024	0.1717	0.0026	0.1634	0.1806		16.48	1023	0.1796	0.0030	0.1703	0.1886		13.20	3092	0.1816	0.0037	0.1693	0.1935		10.75		0.3	mA
25	RUN1 Threshold Rising (RUN1 > 1.28V)	1024	1.754	0.1430	1.336	2.186		2.923	1023	1.798	0.1591	1.349	2.274		2.719	3092	1.774	0.1620	1.377	2.297		2.622	0.5		mA
26	RUN1 Threshold Falling (RUN1 > 1.06V)	1024	1.638	0.1542	1.286	2.099		2.459	1023	1.760	0.1568	1.346	2.390		2.679	3092	1.724	0.1548	1.376	2.269		2.635	0.5		mA
27	RUN1 Threshold Falling (RUN1 < 0.96V)	1024	0.1633	0.0026	0.1562	0.1730		17.86	1023	0.1705	0.0029	0.1610	0.1788		14.67	3092	0.1742	0.0027	0.1638	0.1844		15.29		0.3	mA

Note: Run Threshold tests are Go/No Go tests that monitor the supply current

LTC3636 -40C Comparison Data current die versus new die version

Item #	DataSheet Description	Current Die Lot 1							Current Die Lot 2							New Die Lot							Lower Limit	Upper Limit	Unit
		Count	Mean	Std Dev	Min	Max	CP	CPK	Count	Mean	Std Dev	Min	Max	CP	CPK	Count	Mean	Std Dev	Min	Max	CP	CPK			
1	VFB1 - Feedback Reference Voltage	1034	599.5	0.8637	597.4	601.7	2.315	2.124	1016	599.7	0.8663	596.3	602.2	2.309	2.179	2927	599.8	0.8440	597.1	602.0	2.370	2.288	594	606	mV
2	VFB2 - Feedback Reference Voltage	1034	599.2	0.8684	596.6	601.6	2.303	1.988	1016	599.4	0.8626	596.6	601.9	2.318	2.090	2927	599.6	0.8518	597.0	601.7	2.348	2.199	594	606	mV
20	RUN2 Threshold Rising (RUN2 < 1.16V)	1034	0.0631	0.0017	0.0568	0.0694		45.3	1016	0.0690	0.0022	0.0611	0.0749		35.6	2927	0.0736	0.0019	0.0665	0.0803		40.6		0.3	mA
21	RUN2 Threshold Rising (RUN2 > 1.28V)	1034	0.7216	0.0217	0.6601	0.8673		3.41	1016	0.7711	0.0260	0.6971	0.8399		3.48	2927	0.8010	0.0235	0.7222	0.8942		4.26	0.5		mA
22	RUN2 Threshold Falling (RUN2 > 1.06V)	1034	0.7129	0.0212	0.6200	0.7910		3.34	1016	0.7609	0.0260	0.6624	0.8582		3.34	2927	0.7880	0.0237	0.6864	0.8898		4.05	0.5		mA
23	RUN2 Threshold Falling (RUN2 < 0.96V)	1034	0.0623	0.0017	0.0569	0.0686		47.4	1016	0.0681	0.0022	0.0599	0.0735		35.7	2927	0.0727	0.0018	0.0643	0.0803		41		0.3	mA
24	RUN1 Threshold Rising (RUN1 < 1.16V)	1034	0.0706	0.0019	0.0635	0.0765		41.3	1016	0.0748	0.0023	0.0664	0.0806		32	2927	0.0795	0.0019	0.0722	0.0863		38.2		0.3	mA
25	RUN1 Threshold Rising (RUN1 > 1.28V)	1034	0.7358	0.0192	0.6698	0.8108		4.1	1016	0.7840	0.0262	0.6923	1.086		3.61	2927	0.8146	0.0213	0.7515	1.028		4.91	0.5		mA
26	RUN1 Threshold Falling (RUN1 > 1.06V)	1034	0.7247	0.0199	0.6592	0.8379		3.76	1016	0.7756	0.0347	0.6925	1.072		2.65	2927	0.8054	0.0367	0.7230	1.194		2.78	0.5		mA
27	RUN1 Threshold Falling (RUN1 < 0.96V)	1034	0.0654	0.0017	0.0598	0.0705		45.4	1016	0.0704	0.0022	0.0629	0.0762		34.1	2927	0.0747	0.0019	0.0669	0.0822		39.4		0.3	mA

Note: Run Threshold tests are Go/No Go tests that monitor the supply current