



Reliability Data Report

Product Family R415

LTC1697 / LTC1701 / LTC1774 / LTC1911 / LTC1967 / LTC1968 / LTC3025 / LTC3026 /
LTC3035 / LTC3100 / LTC3101 / LTC3105 / LTC3122 / LTC3125 / LTC3127 / LTC3200 /
LTC3201 / LTC3202 / LTC3203 / LTC3204 / LTC3205 / LTC3206 / LTC3207 / LTC3208 /
LTC3209 / LTC3210 / LTC3212 / LTC3214 / LTC3215 / LTC3216 / LTC3217 / LTC3218 /
LTC3219 / LTC3221 / LTC3240 / LTC3250 / LTC3251 / LTC3252 / LTC3374 / LTC3375 /
LTC3400 / LTC3401 / LTC3402 / LTC3403 / LTC3405 / LTC3406 / LTC3407 / LTC3408 /
LTC3409 / LTC3410 / LTC3413 / LTC3414 / LTC3415 / LTC3416 / LTC3421 / LTC3422 /
LTC3423 / LTC3424 / LTC3425 / LTC3426 / LTC3427 / LTC3428 / LTC3429 / LTC3440 /
LTC3441 / LTC3442 / LTC3443 / LTC3444 / LTC3445 / LTC3446 / LTC3447 / LTC3448 /
LTC3451 / LTC3452 / LTC3453 / LTC3454 / LTC3455 / LTC3456 / LTC3490 / LTC3521 /
LTC3522 / LTC3525 / LTC3526 / LTC3527 / LTC3530 / LTC3531 / LTC3532 / LTC3529 /
LTC3530 / LTC3531 / LTC3532 / LTC3533 / LTC3535 / LTC3536 / LTC3537 / LTC3538 /
LTC3541 / LTC3542 / LTC3543 / LTC3544 / LTC3545 / LTC3546 / LTC3547 / LTC3548 /
LTC3549 / LTC3553 / LTC3553 / LTC3555 / LTC3556 / LTC3557 / LTC3559 / LTC3560 /
LTC3561 / LTC3563 / LTC3564 / LTC3565 / LTC3568 / LTC3569 / LTC3576 / LTC3586 /
LTC3620 / LTC3670 / LTC3816 / LTC3860 / LTC3861 / LTC4410 / LTC4411 / LTC4413 /
LTC4456 / LTC4457 / LTC4458

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OPERATING LIFE TEST					
PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HRS (+125°C)¹	No. of FAILURES _{2,3}
QFN/DFN	8884	0001	1446	7082	0
SSOP/TSSOP	4636	0243	1447	1438	0
SOIC/MSOP	6176	9928	1420	4011	0
PLASTIC DIP	145	8418	9807	347	0
Totals	19,841	-	-	12,878	0

HIGHLY ACCELERATED STRESS TEST AT +130 DEG C / 85% RH					
PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HRS (+85°C)⁴	No. of FAILURES
QFN/DFN	186	0238	1412	450	0
SSOP/TSSOP	374	0702	1010	455	0
SOIC/MSOP	323	1041	1418	643	0
Totals	883	-	-	1,548	0

PRESSURE COOKER TEST AT 15 PSIG , +121 DEG C					
PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HRS	No. of FAILURES
QFN/DFN	85286	0214	1419	5280	0
SSOP/TSSOP	13306	0237	1421	756	0
SOIC/MSOP	19709	9928	1420	1917	0
PLASTIC DIP	150	9534	9851	6	0
Totals	118,451	-	-	7,959	0

TEMP CYCLE FROM -65 TO 150 DEG C					
PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	No. of FAILURES
SSOP/TSSOP	15286	0237	1415	4426	0
SOIC/MSOP	33097	9928	1420	6173	0
PLASTIC DIP	140	9113	9851	18	0
QFN/DFN	84626	0214	1419	17871	0
Totals	133,149	-	-	28,488	0

TEMP CYCLE FROM -55 TO 125 DEG C					
PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	No. of FAILURES
QFN/DFN	153	0819	0819	115	0
Totals	153	-	-	115	0

(1) Assumes Activation Energy = 0.7 Electron Volts
 (2) Failure Rate Equivalent to +55 °C, 60% Confidence Level =0.92 FITS
 (3) Mean Time Between Failure in Years = 124068.18
 (4) Assumes 20X Acceleration from 85 °C to +130 °C
 Note 1: 1 FIT = 1 Failure in One Billion Hours.
 Note 2: HAST, Temp Cycle & Thermal Shock are subjected to J-STD-020 MSL Preconditioning

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THERMAL SHOCK FROM -65 TO 150 DEG C					
PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	No. of FAILURES
SSOP/TSSOP	14409	0237	1421	3810	0
SOIC/MSOP	19989	9928	1420	4794	0
PLASTIC DIP	139	9113	9851	13	0
QFN/DFN	85688	0238	1419	17596	0
Totals	120,225	-	-	26,213	0
THERMAL SHOCK FROM -55 TO 125 DEG C					
PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE CYCLES	No. of FAILURES
QFN/DFN	138	0819	0819	138	0
Totals	138	-	-	138	0
HIGH TEMPERATURE BAKE AT 150 DEG C					
PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HRS	No. of FAILURES
QFN/DFN	5492	0621	1416	5095	0
SOIC/MSOP	177	1217	1304	177	0
Totals	5,669	-	-	5,272	0
HIGH TEMPERATURE BAKE AT 175 DEG C					
PACKAGE TYPE	SAMPLE SIZE	OLDEST DATE CODE	NEWEST DATE CODE	K DEVICE HRS	No. of FAILURES
QFN/DFN	1377	0621	0914	1362	0
SSOP/TSSOP	1423	0851	1237	1250	0
SOIC/MSOP	580	0820	1418	580	0
Totals	3,380	-	-	3,192	0