LM25037MT/NOPB

Quality, reliability & packaging data download

Status: LAST TIME BUY

Report date: 02/22/2024

Assembly site: **Texas Instruments Electronics**

RoHS	Yes
REACH	Yes
Device marking	L25037, MT
Lead finish/Ball material	SN
MSL rating/Peak reflow	Level-1-260C-UNLIM
Rating	Catalog

Material content

				Homogeneous Material Level		Component Level	
Component	Substance	CAS Number	Amount (mg)	Percentage %	ppm	Percentage %	ppm
Bond Wire							
Copper and Its Alloys	Copper	7440-50-8	0.083346	99.998800	999988	0.147518	1475
Precious Metals	Silver	7440-22-4	0.000001	0.001200	12	0.000002	0
Sub-total	—	—	0.083347	100	1000000	0.147519	1475
Die Attach Adhesive							
Precious Metals	Silver	7440-22-4	0.66768	75.000000	750000	1.181755	11818
Thermoplastics	Epoxy	85954-11-6	0.22256	25.000000	250000	0.393918	3939
Sub-total	—	—	0.89024	100	1000000	1.575673	15757
Lead Frame							
Copper and Its Alloys	Copper	7440-50-8	17.66182	94.600000	946000	31.260402	312604
Magnesium and Its Alloys	Magnesium	7439-95-4	0.028005	0.150000	1500	0.049567	496
Nickel and Its Alloys	Nickel	7440-02-0	0.550765	2.950000	29500	0.974822	9748
Other Inorganic Materials	Silicon	7440-21-3	0.119488	0.640000	6400	0.211487	2115
Precious Metals	Silver	7440-22-4	0.309922	1.660000	16600	0.548544	5485
Sub-total	—	—	18.670000	100	1000000	33.044823	330448
Lead Frame Plating							
Other Nonferrous Metals and Alloys	Tin	7440-31-5	1.72	100.000000	1000000	3.044301	30443
Sub-total	—	—	1.72	100	1000000	3.044301	30443
Mold Compound							
Other Inorganic Materials	Fused Silica	60676-86-0	28.592214	89.000000	890000	50.606569	506066
Other Nonferrous Metals and Alloys	Metal Hydroxide	Trade Secret	0.963782	2.999998	30000	1.705839	17058
Thermoplastics	Epoxy	85954-11-6	2.570087	8.000001	80000	4.548906	45489
Sub-total	—	—	32.126083	100	1000000	56.861313	568613
Semiconductor Device							
Ceramics / Glass	Doped Silicon	7440-21-3	3.009347	100.000000	1000000	5.326371	53264
Sub-total	—	—	3.009347	100	1000000	5.326371	53264
Total	—	—	56.499017	—	—	100	1000000

MTBF/FIT estimates

MTBF / FIT		MTBF / FIT supporting data							
MTBF	FIT	Usage temp (°C)	Conf level (%)	Activation energy (eV)	Test temp (°C)	Test duration (hours)	Sample size	Fails	Additional comments
2.9×10^8	3.4	55	60	0.7	125	1000	3389	0	—

Qualification summary

Stress	Reference	Min lot qty	SS / lot	Condition	Duration	Result	Notes
HTOL	JESD22-A108	3	77	Life test, 125C	1000 hours	Pass	Or equivalent JEDEC condition
HTSL	JESD22-A103	3	25	High temp storage bake, 150C	1000 hours	Pass	Or equivalent JEDEC condition
AC/UHAST	JESD22-A102/JESD22-A118	3	25	Unbiased HAST 130C / 85% RH	96 hours	Pass	Or equivalent JEDEC condition
THB/HAST	JESD22-A101/JESD22-A110	3	25	HAST 130C/85%RH	96 hours	Pass	Or equivalent JEDEC condition
TC	JESD22-A104	3	25	Temperature cycle -65/150C	500 cycles	Pass	Or equivalent JEDEC condition
SD	J-STD-002	3	22	Per specification	>95% lead coverage	Pass	—
HBM	JS-001	1	3	ESD - HBM	Classification	See data sheet	—
CDM	JS-002	1	3	ESD - CDM	Classification	See data sheet	—
LU	JESD78	1	3	Latch-up	Per JESD78	Pass	As applicable per JESD78
MSL	J-STD-020	—	—	Per J-STD-020	Classification	See data sheet	—

Ongoing reliability monitoring

FAB process reliability data

Fab Process	Reliability Test	Rolling Year (1Q2023 - 4Q2023) Sample Size	Cumulative Sample Size	Disposition
Power BICMOS	Life test 125C, 1000 Hours or Equivalent JEDEC Condition	31353	389363	Pass

Assembly process reliability data

Package Family	Reliability Test	Rolling Year (1Q2023 - 4Q2023) Sample Size	Cumulative Sample Size	Disposition
TSSOP	Biased HAST 130C/85%RH, 96 Hours or Equivalent JEDEC Condition	3003	41153	Pass
TSSOP	High temp storage bake 150C, 1000 Hours or Equivalent JEDEC Condition	1683	31448	Pass
TSSOP	Temperature cycle -65/150C, 500 Hours or Equivalent JEDEC Condition	7546	86904	Pass
TSSOP	Unbiased HAST 130C/85% RH, 96 Hours or Equivalent JEDEC Condition	5313	70298	Pass

Additional resources

General quality guidelines

Certifications

Conflict minerals specialized disclosure report

Restricted chemical test report

For additional component information, please visit Material content search

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