THVD1400DR

Quality, reliability & packaging data download

Status: ACTIVE

Report date: 11/17/2025

Assembly site: **TI MALAYSIA A/T**

RoHS	Yes
REACH	Yes
Device marking	1400
Lead finish/Ball material	NiPdAu
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	0.05148	99.990288	999903	0.068830	688
Not Categorized	Proprietary Materials	—	0.000004	0.007769	78	0.000005	0
Precious Metals	Silver	7440-22-4	0.000001	0.001942	19	0.000001	0
Sub-total	—	—	0.051485	100	1000000	0.068836	688
Die Attach Adhesive							
Precious Metals	Silver	7440-22-4	0.247857	80.000065	800001	0.331389	3314
Thermoplastics	Epoxy	85954-11-6	0.061964	19.999935	199999	0.082847	828
Sub-total	—	—	0.309821	100	1000000	0.414235	4142
Lead Frame							
Copper and Its Alloys	Copper	7440-50-8	12.8106	97.050000	970500	17.127963	171280
Copper and Its Alloys	Iron	7439-89-6	0.3432	2.600000	26000	0.458864	4589
Copper and Its Alloys	Phosphorus	7723-14-0	0.0198	0.150000	1500	0.026473	265
Zinc and Its Alloys	Zinc	7440-66-6	0.0264	0.200000	2000	0.035297	353
Sub-total	—	—	13.2000	100	1000000	17.648597	176486
Lead Frame Plating							
Nickel and Its Alloys	Nickel	7440-02-0	0.09512	95.120000	951200	0.127177	1272
Precious Metals	Gold	7440-57-5	0.00078	0.780000	7800	0.001043	10
Precious Metals	Palladium	7440-05-3	0.0041	4.100000	41000	0.005482	55
Sub-total	—	—	0.10000	100	1000000	0.133701	1337
Mold Compound							
Not Categorized	Phenolic Resin	9003-35-4	2.104136	3.500000	35000	2.813261	28133
Other Inorganic Materials	Fused Silica	60676-86-0	51.401039	85.500000	855000	68.723955	687240
Other Organic Materials	Carbon Black	1333-86-4	0.300591	0.500000	5000	0.401895	4019
Thermoplastics	Epoxy	85954-11-6	6.312408	10.500000	105000	8.439784	84398
Sub-total	—	—	60.118174	100	1000000	80.378895	803789
Semiconductor Device							
Ceramics / Glass	Doped Silicon	7440-21-3	1.014002	100.000000	1000000	1.355736	13557
Sub-total	—	—	1.014002	100	1000000	1.355736	13557
Total	—	—	74.793482	—	—	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**
9.999999999×10^9	0.1	55	60	0.7	125	1000	183306	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 (4Q2024 - 3Q2025) Sample Size	Cumulative Sample Size	Disposition
Power BICMOS	Life test 125C, 1000 Hours or Equivalent JEDEC Condition	25665	434394	Pass

Assembly process reliability data

Package Family	Reliability Test	Rolling Year (4Q2024 - 3Q2025) Sample Size	Cumulative Sample Size	Disposition
SOIC	Biased HAST 130C/85%RH, 96 Hours or Equivalent JEDEC Condition	6240	80572	Pass
SOIC	High temp storage bake 150C, 1000 Hours or Equivalent JEDEC Condition	4955	68854	Pass
SOIC	Temperature cycle -65/150C, 500 Hours or Equivalent JEDEC Condition	12189	178962	Pass
SOIC	Unbiased HAST 130C/85% RH, 96 Hours or Equivalent JEDEC Condition	8393	132368	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

For additional information, please contact TI customer support center

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