TPS72325DBVR

Quality, reliability & packaging data download

Status: ACTIVE

Report date: 10/11/2024

Assembly site: **Ext-Mfg**

RoHS	Yes
REACH	Yes
Device marking	T02I
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							
Precious Metals	Gold	7440-57-5	0.049819	100.000000	1000000	0.277207	2772
Sub-total	—	—	0.049819	100	1000000	0.277207	2772
Die Attach Adhesive							
Precious Metals	Silver	7440-22-4	0.158513	74.999882	749999	0.882011	8820
Thermoplastics	Epoxy	85954-11-6	0.052838	25.000118	250001	0.294006	2940
Sub-total	—	—	0.211351	100	1000000	1.176017	11760
Lead Frame							
Copper and Its Alloys	Copper	7440-50-8	7.80776	97.597000	975970	43.444578	434446
Copper and Its Alloys	Iron	7439-89-6	0.1784	2.230000	22300	0.992668	9927
Copper and Its Alloys	Phosphorus	7723-14-0	0.0028	0.035000	350	0.015580	156
Zinc and Its Alloys	Zinc	7440-66-6	0.01104	0.138000	1380	0.061430	614
Sub-total	—	—	8.00000	100	1000000	44.514255	445143
Lead Frame Plating							
Nickel and Its Alloys	Nickel	7440-02-0	0.085608	95.120000	951200	0.476347	4763
Precious Metals	Gold	7440-57-5	0.000702	0.780000	7800	0.003906	39
Precious Metals	Palladium	7440-05-3	0.00369	4.100000	41000	0.020532	205
Sub-total	—	—	0.090000	100	1000000	0.500785	5008
Mold Compound							
Other Inorganic Materials	Fused Silica	60676-86-0	7.677721	86.999997	870000	42.721004	427210
Other Organic Materials	Carbon Black	1333-86-4	0.008825	0.100000	1000	0.049105	491
Thermoplastics	Epoxy	85954-11-6	1.138421	12.900003	129000	6.334495	63345
Sub-total	—	—	8.824967	100	1000000	49.104604	491046
Semiconductor Device							
Ceramics / Glass	Doped Silicon	7440-21-3	0.795634	100.000000	1000000	4.427132	44271
Sub-total	—	—	0.795634	100	1000000	4.427132	44271
Total	—	—	17.971771	—	—	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**
4.98×10^9	0.2	55	60	0.7	125	1000	58207	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 (4Q2023 - 3Q2024) Sample Size	Cumulative Sample Size	Disposition
Power BICMOS	Life test 125C, 1000 Hours or Equivalent JEDEC Condition	27044	403351	Pass

Assembly process reliability data

Package Family	Reliability Test	Rolling Year (4Q2023 - 3Q2024) Sample Size	Cumulative Sample Size	Disposition
SOP/SOT	Biased HAST 130C/85%RH, 96 Hours or Equivalent JEDEC Condition	9919	102573	Pass
SOP/SOT	High temp storage bake 150C, 1000 Hours or Equivalent JEDEC Condition	9671	80769	Pass
SOP/SOT	Temperature cycle -65/150C, 500 Hours or Equivalent JEDEC Condition	18740	187894	Pass
SOP/SOT	Unbiased HAST 130C/85% RH, 96 Hours or Equivalent JEDEC Condition	13709	156679	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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