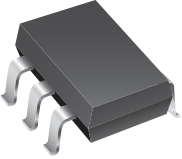


MATERIAL DECLARATION SHEET



Package Type	SOT23-5 (M0-178 AA)			
Product Line	<i>TISP® Thyristor Surge Protectors</i>			
Compliance Date	September 1st, 2008			
RoHS Compliant	Yes (-S suffix)	MSL	1	

Bourns TISP® products complying with RoHS legislation are identified with a “-S ” suffix in the component part number e.g. TISP4C015L1NDR-S

No.	Construction Element (subpart)	Homogeneous Material	Material weight [g]	Homogeneous Material\ Substances	CASRN if applicable	Materials Mass %	Material Mass % of total unit wt.	Subpart mass of total wt. (%)
1	Encapsulation	Epoxy resin	0.008313	Fused Silica (SiO ₂)	60676-86-0	87.70	46.14	52.61
				Epoxy resin	129915-35-1	5.00	2.63	
				Epoxy CN	29690-82-2	2.00	1.05	
				Phenol resin	9003-35-4	5.00	2.63	
				Carbon Black	1333-86-4	0.30	0.16	
2	Leadframe	Copper alloy	0.005644	Copper	7440-50-8	94.56	33.78	35.72
				Iron	7439-89-6	2.23	0.80	
				Zinc	7440-66-6	0.01	0.00	
				Phosphorous	7723-14-0	0.03	0.01	
				Silver (Plating)	7440-22-4	3.17	1.13	
3	Chip	Silicon	0.000708	Silicon	7440-21-3	90.72	4.07	4.49
				Aluminium	7429-90-5	3.05	0.14	
				Nickel	7440-02-0	5.97	0.27	
				Gold	7440-57-5	0.26	0.01	
4	Die Attach	Silver epoxy	0.000078	Silver	7440-22-4	75.00	0.37	0.49
				Epoxy	9003-36-5	25.00	0.12	
5	Bond wires	Gold	0.000502	Gold	7440-57-5	100.00	3.18	3.18
6	Terminal Finish	Matte Tin	0.000555	Matte Tin	7440-31-5	100.00	3.51	3.51
			Total Weight	0.015800				

MATERIAL DECLARATION SHEET



RoHS Compliance Verification.

The substance content of Bourns products in 8-SOIC package has been verified for RoHS compliance. The following is a summary of analytical analysis reports from external laboratories provided to Bourns by its suppliers.

Substance	Analysis Method	Detect Limit	Unit	Material	Encapsulation	Leadframe	Die Attach Epoxy	Bond Wire	Terminal Finish
Lead (Pb)	ICP-AES US EPA 3050B or other acid digestion.	2	ppm	Pb/Hg/Cd & Cr+6 Analysis Result	N.D	N.D	N.D	N.D	20
Mercury (Hg)	ICP-AES or Mercury Analyzer US EPA 3052 or other acid digestion	2	ppm		N.D	N.D	N.D	N.D	N.D
Cadmium (Cd)	ICP-AES EN1122, Method B:2001, US EPA 3050B or other acid digestion.	2	ppm		N.D	N.D	N.D	N.D	N.D
Hexavalent Chromium (Cr+6)	UV-Vis US EPA 7196A, US EPA 3060A	2	ppm		N.D	N.D	N.D	N.D	N.D
Polybrominated biphenyls (PBBs)	GC/MS, ECDMS, LC/MS or HPLC/DAD	5	ppm	PBBs / PBDEs Analysis Result	N.D	-	N.D	N.D	-
Polybrominated diphenyl ethers (PBDEs)	GC/MS, ECDMS, LC/MS or HPLC/DAD	5	ppm		N.D	-	N.D	N.D	-

Note: N.D = Not Detected (<Minimum detection limit)
 - = Not Applicable

Important remarks:

1. It is the responsibility of the user to verify they are accessing the latest version.