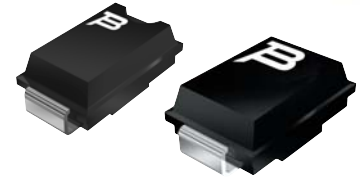


Product Change Notification

TISP® THYRISTOR SURGE PROTECTORS

April, 2012

TISP® Thyristor Surge Protector & LED Shunt Protector SMA (DO-214AC) and SMB (DO-214AA) Packages



As part of Bourns Green initiative to support our customers, we are changing the mold compound on the SMA (DO-214AC) and SMB (DO-214AA) packages for TISP® Thyristor Surge Protector products to Hysol KL-G100S.

Below are the affected Bourns® part numbers using SMA (DO-214AC) and SMB (DO-214AA) packages.

SMA Package	SMB Package			
TISP4015L1AJR-S	TISP4015H1BJR-S	TISP4145J1BJR-S	TISP4265H3BJR-S	TISP4395M3BJR-S
TISP4030L1AJR-S	TISP4015H1BJ-S	TISP4145J1BJ-S	TISP4265H4BJR-S	TISP4395M3BJ-S
TISP4040L1AJR-S	TISP4015L1BJR-S	TISP4145J3BJR-S	TISP4265M3BJR-S	TISP4400H3BJR-S
TISP4070L3AJR-S	TISP4015L1BJ-S	TISP4145M3BJR-S	TISP4290H3BJR-S	TISP4400H3BJ-S
TISP4070M3AJR-S	TISP4030H1BJR-S	TISP4145M3BJ-S	TISP4290H3BJ-S	TISP4400M3BJR-S
TISP4080L3AJR-S	TISP4030H1BJ-S	TISP4165H3BJR-S	TISP4290J1BJR-S	TISP4400T3BJR-S
TISP4080M3AJR-S	TISP4030L1BJR-S	TISP4165H4BJR-S	TISP4290J1BJ-S	TISP4500H3BJR-S
TISP4090L3AJR-S	TISP4030L1BJ-S	TISP4165J1BJR-S	TISP4290J3BJR-S	TISP4500M3BJR-S
TISP4090M3AJR-S	TISP4040H1BJR-S	TISP4165J3BJR-S	TISP4290M3BJR-S	TISP4520H3BJR-S
TISP4095M3AJR-S	TISP4040H1BJ-S	TISP4165M3BJR-S	TISP4290M3BJ-S	TISP4520H3BJ-S
TISP4115M3AJR-S	TISP4040L1BJR-S	TISP4180H3BJR-S	TISP4290T3BJR-S	TISP4A100H3BJR-S
TISP4125L3AJR-S	TISP4070H3BJR-S	TISP4180H3BJ-S	TISP4300H3BJR-S	TISP4A250H3BJR-S
TISP4125M3AJR-S	TISP4070H3BJ-S	TISP4180H4BJR-S	TISP4300H3BJ-S	TISP4A265H3BJR-S
TISP4145L3AJR-S	TISP4070J1BJR-S	TISP4180J1BJR-S	TISP4300H4BJR-S	TISP4A270H3BJR-S
TISP4145M3AJR-S	TISP4070J3BJR-S	TISP4180J3BJR-S	TISP4300M3BJR-S	TISP4C115H3BJR-S
TISP4165L3AJR-S	TISP4070L3BJR-S	TISP4180M3BJR-S	TISP4300MMBJR-S	TISP4C115H3BJ-S
TISP4165M3AJR-S	TISP4070M3BJR-S	TISP4180M3BJ-S	TISP4310T3BJR-S	TISP4C125H3BJR-S
TISP4180L3AJR-S	TISP4070M3BJ-S	TISP4200H3BJR-S	TISP4350H3BJR-S	TISP4C145H3BJR-S
TISP4180M3AJR-S	TISP4080H3BJR-S	TISP4200H4BJR-S	TISP4350H3BJ-S	TISP4C165H3BJR-S
TISP4200M3AJR-S	TISP4080H3BJ-S	TISP4200J1BJR-S	TISP4350H4BJR-S	TISP4C180H3BJR-S
TISP4220L3AJR-S	TISP4080J1BJR-S	TISP4200J3BJR-S	TISP4350H7BJR-S	TISP4C220H3BJR-S
TISP4220M3AJR-S	TISP4080J3BJR-S	TISP4200M3BJR-S	TISP4350H8BJR-S	TISP4C250H3BJR-S
TISP4240L3AJR-S	TISP4080M3BJR-S	TISP4219H3BJR-S	TISP4350J1BJR-S	TISP4C290H3BJR-S
TISP4240M3AJR-S	TISP4080M3BJ-S	TISP4219H3BJ-S	TISP4350J1BJ-S	TISP4C350H3BJR-S
TISP4250M3AJR-S	TISP4095H3BJR-S	TISP4219J1BJR-S	TISP4350J3BJR-S	TISP4C350H3BJ-S
TISP4260L3AJR-S	TISP4095J1BJR-S	TISP4219J1BJ-S	TISP4350J3BJ-S	TISP4C395H3BJR-S
TISP4265M3AJR-S	TISP4095J3BJR-S	TISP4219J3BJR-S	TISP4350L3BJR-S	TISP4C395H3BJ-S
TISP4290L3AJR-S	TISP4095M3BJR-S	TISP4219M3BJR-S	TISP4350M3BJR-S	TISP5070H3BJR-S
TISP4290M3AJR-S	TISP4095M3BJ-S	TISP4219M3BJ-S	TISP4350M3BJ-S	TISP5070H3BJ-S
TISP4300M3AJR-S	TISP4115H3BJR-S	TISP4220H3BJR-S	TISP4350MMBJR-S	TISP5080H3BJR-S
TISP4300MMAJR-S	TISP4115H3BJ-S	TISP4220H3BJ-S	TISP4350T3BJR-S	TISP5095H3BJR-S

SMA Package	SMB Package			
TISP4320L3AJR-S	TISP4115J1BJR-S	TISP4220M3BJR-S	TISP4350T3BJ-S	TISP5110H3BJR-S
TISP4320M3AJR-S	TISP4115J1BJ-S	TISP4240H3BJR-S	TISP4360H3BJR-S	TISP5115H3BJR-S
TISP4350L3AJR-S	TISP4115J3BJR-S	TISP4240H3BJ-S	TISP4360H3BJ-S	TISP5115H3BJ-S
TISP4350M3AJR-S	TISP4115M3BJR-S	TISP4240M3BJR-S	TISP4360H4BJR-S	TISP5150H3BJR-S
TISP4350MMAJR-S	TISP4125H3BJR-S	TISP4240M3BJ-S	TISP4360M3BJR-S	TISP5150H3BJ-S
TISP4360L3AJR-S	TISP4125H3BJ-S	TISP4250H3BJR-S	TISP4360MMBJR-S	TISP5190H3BJR-S
TISP4360M3AJR-S	TISP4125J1BJR-S	TISP4250H3BJ-S	TISP4395H3BJR-S	TISP5190H3BJ-S
TISP4360MMAJR-S	TISP4125J3BJR-S	TISP4250J1BJR-S	TISP4395H3BJ-S	LSP0600BJR-S
TISP4395L3AJR-S	TISP4125M3BJR-S	TISP4250J3BJR-S	TISP4395J1BJR-S	LSP0900BJR-S
TISP4395M3AJR-S	TISP4145H3BJR-S	TISP4250J3BJ-S	TISP4395J3BJR-S	LSP1300BJR-S
TISP4400L3AJR-S	TISP4145H3BJ-S	TISP4250M3BJR-S	TISP4395J3BJ-S	LSP1800BJR-S
LSP0600AJR-S	R3705BJR-S	R3746-S	R3767-S	
LSP0900AJR-S	R3706BJR-S	R3749-S		
LSP1300AJR-S	R3716BJR-S	R3750BJR-S		
LSP1800AJR-S	R3736-S	R3759-S		
R3703AJR-S	R3740-S	R3761-S		

Qualification:

Below are the *Qualification Information* and *Results* of the SMA (DO-214AC) and SMB (DO-214AA) packages using the new mold compound. Qualification by similarity will apply to the part numbers listed above.

Qualification Information:

All Products	
Die Technology	Thyristor Overvoltage Protector
Product Name	See row 1 in Qualification Results table
Die Name	See row 2 in Qualification Results table
Top Metal	Al/Ni/Au
Back Metal	AlNiAu
Assembly Site	China
Pins/Package	SMA (DO-214AC) and SMB (DO-214AA)
Mold Compound	Hysol KL-G100S
Die Attach	Pb/Sn/Ag Solder
Bond Wire	Soldered Copper Clip
L/F Material	Copper
Marking	Laser
Termination Finish	Matte Sn (Pb Free)

Qualification Results:

The following table contains reliability qualification results for products assembled at the Assembly/ Test facility. Representative parts from the range of thyristor overvoltage products were included in this qualification.

Stress Test / Conditions	Standard	Method	SS / Accept	TISP4015 L1BJR-S	TISP4080 M3BJR-S	TISP4115 J1BJR-S	TISP4C180 H3BJR-S	TISP4350 H3BJR-S
Moisture Induced Stress Sensitivity	EIA / JESD22	A112	Level1	Package meets MSL Level 1 at 260 °C Reflow Peak				
HTRB, 150 °C, 1000 h (Note 1 & 2)	MIL STD 750	1048	129/1	45/0	45/0	45/0	45/0	45/0
85 °C / 85 % RH, 1000 h (Note 1 & 2)	JESD22	A101	129/1	45/0	45/0	45/0	45/0	45/0
Temperature Cycle, -65 / +150 °C, 200 cs (Note 1)	MIL STD 883	1010	129/1	45/0	45/0	45/0	45/0	45/0
Solvent Resistance (3 Solvents)	MIL STD 883	2015	12/0	Not Applicable - Laser Mark				
Solderability, 8 h Steam Age	MIL STD 883	2003	32/0	Qualified by Similarity				
Lead Fatigue	MIL STD 883	2004	22/0	Qualified by Similarity				
Lead Pull	MIL STD 883	2004	22/0	0/10	0/10	0/10	0/10	0/10
Lead Finish	MIL STD 883	2025	15/0	Qualified by Similarity				
Physical Dimensions	MIL STD 883	2016	5/0	Qualified by Similarity				
Flammability	UL94-V0	V0		Manufacturer's Mold Compound Data Sheet				

Notes:

1. Preconditioned according to JESD22 A113 Level 1 at 260 °C peak reflow temperature prior to Qualification Reliability.
2. Testing Bias 6.4, 50 or 100 V according to V_{drm} rating.

Product Labeling:

The product marking is unchanged and the labels will show the country of origin code.

Identification of the Changed Product:

Bourns maintains traceability back to source wafer lots and assembly sites for all products.

First Date Code from New Site: 1239

Impact on Form, Fit, Function and Reliability:

Product ratings and electrical characteristics are unaffected by the change. There is no impact on form, fit, function or reliability.

Last Date of Manufacture of Existing Product:

All products listed above using SMA (DO-214AC) and SMB (DO-214AA) packages will move to the new mold compound by end of Q3 2012.

Samples:

Evaluation samples are available from April, 2012 onward.

Implementation Date:

Deliveries of such products to customers may occur from October, 2012 onward. Product is available to ship earlier than the end of Q3 2012, if requested.

If you have any questions, please contact our [customer service](#) teams in your region.