



Title of Change:	Mold compound changes to Green version for DOSMA, SMB, SMC & lead frame of internal structure changes from triple to bi-layer for TTN30.										
Proposed first ship date:	28 February 2018										
Contact information:	Contact your local ON Semiconductor Sales Office or <edgar.kim@onsemi.com>										
Samples:	Contact your local ON Semiconductor Sales Office										
Additional Reliability Data:	Contact your local ON Semiconductor Sales Office or <Ken.fergus@onsemi.com>.										
Type of notification:	This is a Final Product/Process Change Notification (FPCN) sent to customers. FPCNs are issued 90 days prior to implementation of the change. ON Semiconductor will consider this change accepted, unless an inquiry is made in writing within 30 days of delivery of this notice. To do so, contact <PCN.Support@onsemi.com>.										
Change Part Identification:	Affected products will be identified with date code.										
Change category:	<input type="checkbox"/> Wafer Fab Change <input checked="" type="checkbox"/> Assembly Change <input type="checkbox"/> Test Change <input type="checkbox"/> Other _____										
Change Sub-Category(s):	<input type="checkbox"/> Manufacturing Site Change/Addition <input checked="" type="checkbox"/> Material Change <input type="checkbox"/> Datasheet/Product Doc change <input type="checkbox"/> Manufacturing Process Change <input type="checkbox"/> Product specific change <input type="checkbox"/> Shipping/Packaging/Marking <input type="checkbox"/> Other: _____										
Sites Affected:	ON Semiconductor Sites: None	External Foundry/Subcon Sites: Panjit									
Description and Purpose:											
<p>This Final Notification announces to customers that due to environmental concerns, the standard industry is moving into Green Halogen-Free products.</p> <p>This change of mold compound is a corporate directive to go for Green, and the change of internal lead frame to bi-layer is to ensure the better thermal performance of TTN30 package products.</p>											
<table border="1"> <thead> <tr> <th>Material to be changed</th> <th>Before Change Description</th> <th>After Change Description</th> </tr> </thead> <tbody> <tr> <td>Lead frame</td> <td>Triple layer</td> <td>Bi layer</td> </tr> <tr> <td>Mold Compound</td> <td>ELL2KS400</td> <td>ELER-8-640</td> </tr> </tbody> </table>			Material to be changed	Before Change Description	After Change Description	Lead frame	Triple layer	Bi layer	Mold Compound	ELL2KS400	ELER-8-640
Material to be changed	Before Change Description	After Change Description									
Lead frame	Triple layer	Bi layer									
Mold Compound	ELL2KS400	ELER-8-640									



Reliability Data Summary:

QV DEVICE NAME: S1A, SMBK22A, SMCJ14A for changing mold compound to Green.

Test	Specification	Condition	Interval	Results
PC	J-STD-020 JESD-A113	TMCL -55~+150 ,5cycle Bake 125 +5/-0 °C, 24hours Temperature humidity 85°C/85%RH, 168hours 4. Reflow 3 times	1 cyc	0/693(3lots)
HTRB	JESD22-A108	Ta=100°C, 100% max rated V	168 hrs 500 hrs 1000 hrs	0/231(3lots) 0/231(3lots) 0/231(3lots)
H ³ TRB (THBT)	JESD22-A101	TA=85°C+/-2°C RH=85%+/-5% VR=80%VB (customer spec.) DC Supply	168 hrs 500 hrs 1000 hrs	0/231(3lots) 0/231(3lots) 0/231(3lots)
TC (TMCL)	JESD22-A104	Ta = - 55 + 0°C/ - 10°C 10min Ta = + 150 + 15°C/ - 0°C10min Transfer time ≤ 1 min. The load Should reach temp. within 15mins	100 cyc 500 cyc 1000 cyc	0/231(3lots) 0/231(3lots) 0/231(3lots)
PTC (PRCL)	JESD22- B105	ΔTj≥100°C DC supply On time: 2 mins at least, Off time : 2 mins at least	7500 cyc 15000 cyc	0/231(3lots) 0/231(3lots)
HTSL	JESD22-A103C	Ta = 150C	168 hrs 500 hrs 1000 hrs	0/231(3lots) 0/231(3lots) 0/231(3lots)
RSH	JESD22 A-111 (SMD) B-106 (PTH)	Temperature of solder pot=260±5°C Time for dipping in solder=10±1sec Dipping depth=within 1.27mm of the body	1 cyc	0/90(3lots)

QV DEVICE NAME: MB8S. For changing the internal structure of lead frame from triple layer to bi layer.

Test	Specification	Condition	Interval	Results
PC	J-STD-020 JESD-A113	TMCL -55~+150 ,5cycle Bake 125 +5/-0 °C, 24hours Temperature humidity 85°C/85%RH, 168hours 4. Reflow 3 times	1 cyc	0/693(3lots)
HTRB	JESD22-A108	Ta=100°C, 100% max rated V	168 hrs 500 hrs 1000 hrs	0/231(3lots) 0/231(3lots) 0/231(3lots)
H ³ TRB (THBT)	JESD22-A101	TA=85°C+/-2°C RH=85%+/-5% VR=80%VB (customer spec.) DC Supply	168 hrs 500 hrs 1000 hrs	0/231(3lots) 0/231(3lots) 0/231(3lots)
TC (TMCL)	JESD22-A104	Ta = - 55 + 0°C/ - 10°C 10min Ta = + 150 + 15°C/ - 0°C10min Transfer time ≤ 1 min. The load Should reach temp. within 15mins	100 cyc 500 cyc 1000 cyc	0/231(3lots) 0/231(3lots) 0/231(3lots)
PTC (PRCL)	JESD22- B105	ΔTj≥100°C DC supply On time: 2 mins at least, Off time : 2 mins at least	7500 cyc 15000 cyc	0/231(3lots) 0/231(3lots)
HTSL	JESD22-A103C	Ta = 150C	168 hrs 500 hrs 1000 hrs	0/231(3lots) 0/231(3lots) 0/231(3lots)
RSH	JESD22 A-111 (SMD) B-106 (PTH)	Temperature of solder pot=260±5°C Time for dipping in solder=10±1sec Dipping depth=within 1.27mm of the body	1 cyc	0/90(3lots)



Electrical Characteristic Summary:

Electrical characteristic are not impacted.

List of Affected Parts:

Product ID	Qualification Vehicle
DF005S	DF005S
DF01S	
DF02S	
DF04S	
DF06S	
DF08S	
DF10S	
DF005M	DF01M
DF01M	
DF02M	
DF04M	
DF06M	
DF08M	
DF10M	MB8S
MB1S	
MB2S	
MB4S	
MB6S	
MB8S	S1A
S100	
S1A	
S1B	
S1D	
S1G	
S1J	
S1K	
S1M	
SS12	
SS13	
SS14	
SS15	
SS16	
SS18	
SS19	



ES1A	S1A	
ES1B		
ES1C		
ES1D		
ES1F		
ES1G		
ES1H		
ES1J		
RS1A		
RS1B		
RS1D		
RS1G		
RS1J		
RS1K		
RS1M		
EGF1A		
EGF1B		
EGF1C		
EGF1D		
GF1A		
GF1B		
GF1D		
GF1G		
GF1J		
GF1K		
GF1M		
RGF1A		
RGF1B		
RGF1D		
RGF1G		
RGF1J		
RGF1K		
RGF1M		
MBRS130		SMBJ22A
MBRS130L		
MBRS140		
S210		
S2A		
S2B		
S2D		



S2G	
S2J	
S2K	
S2M	
SMBJ100A	
SMBJ100CA	
SMBJ10A	
SMBJ10CA	
SMBJ110A	
SMBJ110CA	
SMBJ11A	
SMBJ11CA	
SMBJ120A	
SMBJ120CA	
SMBJ12A	
SMBJ12CA	
SMBJ130A	
SMBJ130CA	
SMBJ13A	
SMBJ13CA	
SMBJ14A	SMBJ22A
SMBJ14CA	
SMBJ150A	
SMBJ150CA	
SMBJ15A	
SMBJ15CA	
SMBJ160A	
SMBJ160CA	
SMBJ16A	
SMBJ16CA	
SMBJ170A	
SMBJ170CA	
SMBJ17A	
SMBJ17CA	
SMBJ18A	
SMBJ18CA	
SMBJ20A	
SMBJ20CA	
SMBJ22A	
SMBJ22CA	
SMBJ24A	



SMBJ24CA	
SMBJ26A	
SMBJ26CA	
SMBJ28A	
SMBJ28CA	
SMBJ30A	
SMBJ30CA	
SMBJ33A	
SMBJ33CA	
SMBJ36A	
SMBJ36CA	
SMBJ40A	
SMBJ40CA	
SMBJ43A	
SMBJ43CA	
SMBJ45A	
SMBJ45CA	
SMBJ48A	
SMBJ48CA	
SMBJ51A	
SMBJ51CA	SMBJ22A
SMBJ54A	
SMBJ54CA	
SMBJ58A	
SMBJ58CA	
SMBJ5V0A	
SMBJ5V0CA	
SMBJ60A	
SMBJ60CA	
SMBJ64A	
SMBJ64CA	
SMBJ6V0A	
SMBJ6V0CA	
SMBJ6V5A	
SMBJ6V5CA	
SMBJ70A	
SMBJ70CA	
SMBJ75A	
SMBJ75CA	
SMBJ78A	
SMBJ78CA	



SMBJ7V0A	
SMBJ7V0CA	
SMBJ7V5A	
SMBJ7V5CA	
SMBJ85A	
SMBJ85CA	
SMBJ8V0A	
SMBJ8V0CA	
SMBJ8V5A	
SMBJ8V5CA	
SMBJ90A	
SMBJ90CA	
SMBJ9V0A	
SMBJ9V0CA	
SS22	
SS23	
SS24	
SS25	
SS26	
SS28	
SS29	
ES2A	
ES2B	
ES2C	
ES2D	
MBSR320	
MBSR340	
S310	
S3A	
S3B	
S3D	
S3G	
S3J	
S3K	
S3M	
S3N	
SMCJ100A	
SMCJ100CA	
SMCJ10A	
SMCJ10CA	
SMCJ110A	

SMBJ22A



SMCJ110CA	
SMCJ11A	
SMCJ11CA	
SMCJ120A	
SMCJ120CA	
SMCJ12A	
SMCJ12CA	
SMCJ130A	
SMCJ130CA	
SMCJ13A	
SMCJ13CA	
SMCJ14A	
SMCJ14CA	
SMCJ150A	
SMCJ150CA	
SMCJ15A	
SMCJ15CA	
SMCJ160A	
SMCJ160CA	
SMCJ16A	
SMCJ16CA	SMCJ14A
SMCJ170A	
SMCJ170CA	
SMCJ17A	
SMCJ17CA	
SMCJ18A	
SMCJ18CA	
SMCJ20A	
SMCJ20CA	
SMCJ22A	
SMCJ22CA	
SMCJ24A	
SMCJ24CA	
SMCJ26A	
SMCJ26CA	
SMCJ28A	
SMCJ28CA	
SMCJ30A	
SMCJ30CA	
SMCJ33A	
SMCJ33CA	



SMCJ36A	
SMCJ36CA	
SMCJ40A	
SMCJ40CA	
SMCJ43A	
SMCJ43CA	
SMCJ45A	
SMCJ45CA	
SMCJ48A	
SMCJ48CA	
SMCJ51A	
SMCJ51CA	
SMCJ54A	
SMCJ54CA	
SMCJ58A	
SMCJ58CA	
SMCJ5V0A	
SMCJ5V0CA	
SMCJ60A	
SMCJ60CA	
SMCJ64A	SMCJ14A
SMCJ64CA	
SMCJ6V0A	
SMCJ6V0CA	
SMCJ6V5A	
SMCJ6V5CA	
SMCJ70A	
SMCJ70CA	
SMCJ75A	
SMCJ75CA	
SMCJ78A	
SMCJ78CA	
SMCJ7V0A	
SMCJ7V0CA	
SMCJ7V5A	
SMCJ7V5CA	
SMCJ85A	
SMCJ85CA	
SMCJ8V0A	
SMCJ8V0CA	
SMCJ8V5A	



SMCJ8V5CA	SMCJ14A
SMCJ90A	
SMCJ90CA	
SMCJ9V0A	
SMCJ9V0CA	
SS32	
SS33	
SS34	
SS35	
SS36	
SS38	
SS39	
ES3A	
ES3B	
ES3C	
ES3D	
ES3J	

Appendix A: Changed Products

Product	Customer Part Number	Qualification Vehicle
DF005M		DF01M
DF005S		DF005S
DF01M		DF01M
DF01S		DF005S
DF02M		DF01M
DF02S		DF005S
DF04M		DF01M
DF04S		DF005S
DF06M		DF01M
DF06S		DF005S
DF08M		DF01M
DF08S		DF005S
DF10M		DF01M
DF10S		DF005S
EGF1A		S1A
EGF1B		S1A
EGF1C		S1A
EGF1D		S1A
ES1A		S1A
ES1B		S1A
ES1C		S1A
ES1D		S1A
ES1F		S1A
ES1G		S1A
ES1H		S1A
ES1J		S1A
ES2A		SMBJ22A
ES2B		SMBJ22A
ES2C		SMBJ22A
ES2D		SMBJ22A
ES3A		SMCJ14A
ES3B		SMCJ14A
ES3C		SMCJ14A
ES3D		SMCJ14A
ES3J		SMCJ14A
GF1A		S1A
GF1B		S1A
GF1D		S1A
GF1G		S1A
GF1J		S1A
GF1K		S1A
GF1M		S1A
MB1S		MB8S
MB2S		MB8S
MB4S		MB8S
MB6S		MB8S
MB8S		MB8S
MBRS130		SMBJ22A
MBRS130L		SMBJ22A
MBRS140		SMBJ22A
MBRS320		SMCJ14A
MBRS340		SMCJ14A
RGF1A		S1A
RGF1B		S1A
RGF1D		S1A
RGF1G		S1A
RGF1J		S1A
RGF1K		S1A
RGF1M		S1A



RS1A		S1A
RS1B		S1A
RS1D		S1A
RS1G		S1A
RS1J		S1A
RS1K		S1A
RS1M		S1A
S100		S1A
S1A		S1A
S1B		S1A
S1D		S1A
S1G		S1A
S1J		S1A
S1K		S1A
S1M		S1A
S210		SMBJ22A
S2A		SMBJ22A
S2B		SMBJ22A
S2D		SMBJ22A
S2G		SMBJ22A
S2J		SMBJ22A
S2K		SMBJ22A
S2M		SMBJ22A
S310		SMCJ14A
S3A		SMCJ14A
S3B		SMCJ14A
S3D		SMCJ14A
S3G		SMCJ14A
S3J		SMCJ14A
S3K		SMCJ14A
S3M		SMCJ14A
S3N		SMCJ14A
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SMBJ100CA		SMBJ22A
SMBJ10A		SMBJ22A
SMBJ10CA		SMBJ22A
SMBJ110A		SMBJ22A
SMBJ110CA		SMBJ22A
SMBJ11A		SMBJ22A
SMBJ11CA		SMBJ22A
SMBJ120A		SMBJ22A
SMBJ120CA		SMBJ22A
SMBJ12A		SMBJ22A
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SMBJ130CA		SMBJ22A
SMBJ13A		SMBJ22A
SMBJ13CA		SMBJ22A
SMBJ14A		SMBJ22A
SMBJ14CA		SMBJ22A
SMBJ150A		SMBJ22A
SMBJ150CA		SMBJ22A
SMBJ15A		SMBJ22A
SMBJ15CA		SMBJ22A
SMBJ160A		SMBJ22A
SMBJ160CA		SMBJ22A
SMBJ16A		SMBJ22A
SMBJ16CA		SMBJ22A
SMBJ170A		SMBJ22A
SMBJ170CA		SMBJ22A
SMBJ17A		SMBJ22A
SMBJ17CA		SMBJ22A
SMBJ18A		SMBJ22A
SMBJ18CA		SMBJ22A
SMBJ20A		SMBJ22A
SMBJ20CA		SMBJ22A
SMBJ22A		SMBJ22A
SMBJ22CA		SMBJ22A



SMBJ24A		SMBJ22A
SMBJ24CA		SMBJ22A
SMBJ26A		SMBJ22A
SMBJ26CA		SMBJ22A
SMBJ28A		SMBJ22A
SMBJ28CA		SMBJ22A
SMBJ30A		SMBJ22A
SMBJ30CA		SMBJ22A
SMBJ33A		SMBJ22A
SMBJ33CA		SMBJ22A
SMBJ36A		SMBJ22A
SMBJ36CA		SMBJ22A
SMBJ40A		SMBJ22A
SMBJ40CA		SMBJ22A
SMBJ43A		SMBJ22A
SMBJ43CA		SMBJ22A
SMBJ45A		SMBJ22A
SMBJ45CA		SMBJ22A
SMBJ48A		SMBJ22A
SMBJ48CA		SMBJ22A
SMBJ51A		SMBJ22A
SMBJ51CA		SMBJ22A
SMBJ54A		SMBJ22A
SMBJ54CA		SMBJ22A
SMBJ58A		SMBJ22A
SMBJ58CA		SMBJ22A
SMBJ5V0A		SMBJ22A
SMBJ5V0CA		SMBJ22A
SMBJ60A		SMBJ22A
SMBJ60CA		SMBJ22A
SMBJ64A		SMBJ22A
SMBJ64CA		SMBJ22A
SMBJ6V0A		SMBJ22A
SMBJ6V0CA		SMBJ22A
SMBJ6V5A		SMBJ22A
SMBJ6V5CA		SMBJ22A
SMBJ70A		SMBJ22A
SMBJ70CA		SMBJ22A
SMBJ75A		SMBJ22A
SMBJ75CA		SMBJ22A
SMBJ78A		SMBJ22A
SMBJ78CA		SMBJ22A
SMBJ7V0A		SMBJ22A
SMBJ7V0CA		SMBJ22A
SMBJ7V5A		SMBJ22A
SMBJ7V5CA		SMBJ22A
SMBJ85A		SMBJ22A
SMBJ85CA		SMBJ22A
SMBJ8V0A		SMBJ22A
SMBJ8V0CA		SMBJ22A
SMBJ8V5A		SMBJ22A
SMBJ8V5CA		SMBJ22A
SMBJ90A		SMBJ22A
SMBJ90CA		SMBJ22A
SMBJ9V0A		SMBJ22A
SMBJ9V0CA		SMBJ22A
SMCJ100A		SMCJ14A
SMCJ100CA		SMCJ14A
SMCJ10A		SMCJ14A
SMCJ10CA		SMCJ14A
SMCJ110A		SMCJ14A
SMCJ110CA		SMCJ14A
SMCJ11A		SMCJ14A
SMCJ11CA		SMCJ14A
SMCJ120A		SMCJ14A
SMCJ120CA		SMCJ14A
SMCJ12A		SMCJ14A
SMCJ12CA		SMCJ14A



SMCJ130A		SMCJ14A
SMCJ130CA		SMCJ14A
SMCJ13A		SMCJ14A
SMCJ13CA		SMCJ14A
SMCJ14A		SMCJ14A
SMCJ14CA		SMCJ14A
SMCJ150A		SMCJ14A
SMCJ150CA		SMCJ14A
SMCJ15A		SMCJ14A
SMCJ15CA		SMCJ14A
SMCJ160A		SMCJ14A
SMCJ160CA		SMCJ14A
SMCJ16A		SMCJ14A
SMCJ16CA		SMCJ14A
SMCJ170A		SMCJ14A
SMCJ170CA		SMCJ14A
SMCJ17A		SMCJ14A
SMCJ17CA		SMCJ14A
SMCJ18A		SMCJ14A
SMCJ18CA		SMCJ14A
SMCJ20A		SMCJ14A
SMCJ20CA		SMCJ14A
SMCJ22A		SMCJ14A
SMCJ22CA		SMCJ14A
SMCJ24A		SMCJ14A
SMCJ24CA		SMCJ14A
SMCJ26A		SMCJ14A
SMCJ26CA		SMCJ14A
SMCJ28A		SMCJ14A
SMCJ28CA		SMCJ14A
SMCJ30A		SMCJ14A
SMCJ30CA		SMCJ14A
SMCJ33A		SMCJ14A
SMCJ33CA		SMCJ14A
SMCJ36A		SMCJ14A
SMCJ36CA		SMCJ14A
SMCJ40A		SMCJ14A
SMCJ40CA		SMCJ14A
SMCJ43A		SMCJ14A
SMCJ43CA		SMCJ14A
SMCJ45A		SMCJ14A
SMCJ45CA		SMCJ14A
SMCJ48A		SMCJ14A
SMCJ48CA		SMCJ14A
SMCJ51A		SMCJ14A
SMCJ51CA		SMCJ14A
SMCJ54A		SMCJ14A
SMCJ54CA		SMCJ14A
SMCJ58A		SMCJ14A
SMCJ58CA		SMCJ14A
SMCJ5V0A		SMCJ14A
SMCJ5V0CA		SMCJ14A
SMCJ60A		SMCJ14A
SMCJ60CA		SMCJ14A
SMCJ64A		SMCJ14A
SMCJ64CA		SMCJ14A
SMCJ6V0A		SMCJ14A
SMCJ6V0CA		SMCJ14A
SMCJ6V5A		SMCJ14A
SMCJ6V5CA		SMCJ14A
SMCJ70A		SMCJ14A
SMCJ70CA		SMCJ14A
SMCJ75A		SMCJ14A
SMCJ75CA		SMCJ14A
SMCJ78A		SMCJ14A
SMCJ78CA		SMCJ14A
SMCJ7V0A		SMCJ14A
SMCJ7V0CA		SMCJ14A



SMCJ7V5A		SMCJ14A
SMCJ7V5CA		SMCJ14A
SMCJ85A		SMCJ14A
SMCJ85CA		SMCJ14A
SMCJ8V0A		SMCJ14A
SMCJ8V0CA		SMCJ14A
SMCJ8V5A		SMCJ14A
SMCJ8V5CA		SMCJ14A
SMCJ90A		SMCJ14A
SMCJ90CA		SMCJ14A
SMCJ9V0A		SMCJ14A
SMCJ9V0CA		SMCJ14A
SS12		S1A
SS13		S1A
SS14		S1A
SS15		S1A
SS16		S1A
SS18		S1A
SS19		S1A
SS22		SMBJ22A
SS23		SMBJ22A
SS24		SMBJ22A
SS25		SMBJ22A
SS26		SMBJ22A
SS28		SMBJ22A
SS29		SMBJ22A
SS32		SMCJ14A
SS33		SMCJ14A
SS34		SMCJ14A
SS35		SMCJ14A
SS36		SMCJ14A
SS38		SMCJ14A
SS39		SMCJ14A