

Product / Process Change Notification



N° 2019-139-A

Dear Customer,

Please find attached our INFINEON Technologies PCN:

Change of mold compound material affecting products in package PG-TO220-3 and PG-TO262-3 from ASE (Weihai), Inc.

Important information for your attention:

- Please respond to this PCN by indicating your decision on the approval form, sign it and return to your sales partner before **18th February 2020**.
- Infineon aligns with the widely-recognized JEDEC STANDARD “**JESD46**“, which stipulates:
“**Lack of acknowledgement of the PCN within 30 days constitutes acceptance of the change.**”

Your prompt reply will help Infineon Technologies to assure a smooth and well executed transition. If Infineon does not hear from your side by the due date, we will assume your full acceptance to this proposed change and its implementation.

Your attention and response to this matter is greatly appreciated.

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Management Board: Dr. Reinhard Ploss (CEO), Dr. Helmut Gassel, Jochen Hanebeck, Dr. Sven Schneider
Registered Office: Neubiberg
Commercial Register: München HRB 126492

Product / Process Change Notification



N° 2019-139-A

► **Products affected:**

Please refer to attached affected product list 1_cip19139_a

► **Detailed Change Information:**

Subject: Change of molding compound material, affecting products in package PG-TO220-3 and PG-TO262-3 from ASE (Weihai), Inc..

Reason: Discontinuation Note from molding compound supplier Samsung for SG8200DP.
Best suitable replacement molding compound was carefully selected, evaluated and qualified on defined test vehicles by Infineon Technologies.

Description:

<u>Old</u>	<u>New</u>
■ Samsung SG8200DP	■ Sumitomo EME-E590

► **Product Identification:**

■ Traceability is ensured via Bau number, Lot number and Date code.

► **Impact of Change:**

No change in product quality, performance and reliability as proven by qualification, please refer to 2_cip19139_a.
Product Datasheets and Package outer dimensions remain unchanged.

► **Attachments:**

Affected product list: 1_cip19139_a
Qualification Report: 2_cip19139_a

► **Time Schedule:**

■ Final qualification report:	Available
■ First samples available:	On request
■ Intended start of delivery:	April 2020 onwards or earlier upon customer acceptance

If you have any questions, please do not hesitate to contact your local Sales office.



Sales name	SP number	OPN	Package
IPI030N10N3 G	SP000680648	IPI030N10N3GXKSA1	PG-TO262-3
IPI040N06N3 G	SP000680656	IPI040N06N3GXKSA1	PG-TO262-3
IPI045N10N3 G	SP000683068	IPI045N10N3GXKSA1	PG-TO262-3
IPI072N10N3 G	SP000680674	IPI072N10N3GXKSA1	PG-TO262-3
IPI075N15N3 G	SP000680676	IPI075N15N3GXKSA1	PG-TO262-3
IPI086N10N3 G	SP000683070	IPI086N10N3GXKSA1	PG-TO262-3
IPI180N10N3 G	SP000683076	IPI180N10N3GXKSA1	PG-TO262-3
IPI50R350CP	SP000680736	IPI50R350CPXKSA1	PG-TO262-3
IPI50R399CP	SP001109552	IPI50R399CPXKSA2	PG-TO262-3
IPI530N15N3 G	SP000807642	IPI530N15N3GXKSA1	PG-TO262-3
IPI60R099CP	SP000297356	IPI60R099CPXKSA1	PG-TO262-3
IPI60R125CP	SP000297355	IPI60R125CPXKSA1	PG-TO262-3
IPI60R165CP	SP000680744	IPI60R165CPXKSA1	PG-TO262-3
IPI60R190C6	SP000660618	IPI60R190C6XKSA1	PG-TO262-3
IPI60R199CP	SP001109508	IPI60R199CPXKSA2	PG-TO262-3
IPI60R280C6	SP000687554	IPI60R280C6XKSA1	PG-TO262-3
IPI60R380C6	SP000660630	IPI60R380C6XKSA1	PG-TO262-3
IPI65R190C6	SP000863900	IPI65R190C6XKSA1	PG-TO262-3
IPI65R190CFD	SP000905386	IPI65R190CFDXKSA1	PG-TO262-3
IPI65R190CFD	SP001987344	IPI65R190CFDXKSA2	PG-TO262-3
IPI65R380C6	SP000785080	IPI65R380C6XKSA1	PG-TO262-3
IPI70R950CE	SP001374896	IPI70R950CEXKSA1	PG-TO262-3
IPI90R1K2C3	SP000683080	IPI90R1K2C3XKSA1	PG-TO262-3
IPI90R1K2C3	SP002548888	IPI90R1K2C3XKSA2	PG-TO262-3
IPI90R340C3	SP000683082	IPI90R340C3XKSA1	PG-TO262-3
IPI90R340C3	SP002548884	IPI90R340C3XKSA2	PG-TO262-3
IPI90R500C3	SP000683084	IPI90R500C3XKSA1	PG-TO262-3
IPI90R500C3	SP002548886	IPI90R500C3XKSA2	PG-TO262-3
IPP015N04N G	SP000680760	IPP015N04NGXKSA1	PG-TO220-3
IPP023N04N G	SP000680762	IPP023N04NGXKSA1	PG-TO220-3
IPP023NE7N3 G	SP000641722	IPP023NE7N3GXKSA1	PG-TO220-3
IPP024N06N3 G	SP000680764	IPP024N06N3GXKSA1	PG-TO220-3
IPP028N08N3 G	SP000680766	IPP028N08N3GXKSA1	PG-TO220-3
IPP030N10N3 G	SP000680768	IPP030N10N3GXKSA1	PG-TO220-3
IPP032N06N3 G	SP000680770	IPP032N06N3GXKSA1	PG-TO220-3
IPP034N03L G	SP000680772	IPP034N03LGXKSA1	PG-TO220-3
IPP034NE7N3 G	SP000641724	IPP034NE7N3GXKSA1	PG-TO220-3
IPP037N06L3 G	SP000680774	IPP037N06L3GXKSA1	PG-TO220-3
IPP037N08N3 G	SP000680776	IPP037N08N3GXKSA1	PG-TO220-3
IPP039N04L G	SP000680782	IPP039N04LGXKSA1	PG-TO220-3
IPP0400N	SP001508644	IPP0400NXKSA1	PG-TO220-3
IPP040N06N3 G	SP000680788	IPP040N06N3GXKSA1	PG-TO220-3
IPP041N04N G	SP000680790	IPP041N04NGXKSA1	PG-TO220-3
IPP041N12N3 G	SP000652746	IPP041N12N3GXKSA1	PG-TO220-3
IPP042N03L G	SP000680792	IPP042N03LGXKSA1	PG-TO220-3
IPP045N10N3 G	SP000680794	IPP045N10N3GXKSA1	PG-TO220-3
IPP048N12N3 G	SP000652734	IPP048N12N3GXKSA1	PG-TO220-3
IPP052N06L3 G	SP000680802	IPP052N06L3GXKSA1	PG-TO220-3
IPP052NE7N3 G	SP000641726	IPP052NE7N3GXKSA1	PG-TO220-3
IPP055N03L G	SP000680806	IPP055N03LGXKSA1	PG-TO220-3
IPP057N06N3 G	SP000680808	IPP057N06N3GXKSA1	PG-TO220-3



Sales name	SP number	OPN	Package
IPP057N08N3 G	SP000680810	IPP057N08N3GXKSA1	PG-TO220-3
IPP05CN10N G	SP000680814	IPP05CN10NGXKSA1	PG-TO220-3
IPP072N10N3 G	SP000680830	IPP072N10N3GXKSA1	PG-TO220-3
IPP075N15N3 G	SP000680832	IPP075N15N3GXKSA1	PG-TO220-3
IPP076N12N3 G	SP000652736	IPP076N12N3GXKSA1	PG-TO220-3
IPP078N12N3 G E8177	SP000451508	IPP078N12N3GE8177XKSA1	PG-TO220-3
IPP084N06L3 G	SP000680838	IPP084N06L3GXKSA1	PG-TO220-3
IPP086N10N3 G	SP000680840	IPP086N10N3GXKSA1	PG-TO220-3
IPP093N06N3 G	SP000680852	IPP093N06N3GXKSA1	PG-TO220-3
IPP100N08N3 G	SP000680856	IPP100N08N3GXKSA1	PG-TO220-3
IPP110N20N3 G	SP000677892	IPP110N20N3GXKSA1	PG-TO220-3
IPP114N12N3 G	SP000652740	IPP114N12N3GXKSA1	PG-TO220-3
IPP126N10N3 G	SP000683088	IPP126N10N3GXKSA1	PG-TO220-3
IPP12CN10L G	SP000680864	IPP12CN10LGXKSA1	PG-TO220-3
IPP147N12N3 G	SP000652742	IPP147N12N3GXKSA1	PG-TO220-3
IPP16CN10N G	SP000680880	IPP16CN10NGXKSA1	PG-TO220-3
IPP180N10N3 G	SP000683090	IPP180N10N3GXKSA1	PG-TO220-3
IPP200N15N3 G	SP000680884	IPP200N15N3GXKSA1	PG-TO220-3
IPP200N25N3 G	SP000677894	IPP200N25N3GXKSA1	PG-TO220-3
IPP50R140CP	SP000680932	IPP50R140CPXKSA1	PG-TO220-3
IPP50R190CE	SP000850802	IPP50R190CEXKSA1	PG-TO220-3
IPP50R199CP	SP000680934	IPP50R199CPXKSA1	PG-TO220-3
IPP50R250CP	SP000680936	IPP50R250CPXKSA1	PG-TO220-3
IPP50R280CE	SP000850810	IPP50R280CEXKSA1	PG-TO220-3
IPP50R380CE	SP000850818	IPP50R380CEXKSA1	PG-TO220-3
IPP50R399CP	SP000680942	IPP50R399CPXKSA1	PG-TO220-3
IPP60R060C7	SP001385014	IPP60R060C7XKSA1	PG-TO220-3
IPP60R060P7	SP001658410	IPP60R060P7XKSA1	PG-TO220-3
IPP60R070CFD7	SP001617976	IPP60R070CFD7XKSA1	PG-TO220-3
IPP60R080P7	SP001647034	IPP60R080P7XKSA1	PG-TO220-3
IPP60R090CFD7	SP001686050	IPP60R090CFD7XKSA1	PG-TO220-3
IPP60R099C6	SP000687556	IPP60R099C6XKSA1	PG-TO220-3
IPP60R099C7	SP001298000	IPP60R099C7XKSA1	PG-TO220-3
IPP60R099CP	SP000057021	IPP60R099CPXKSA1	PG-TO220-3
IPP60R099P6	SP001114650	IPP60R099P6XKSA1	PG-TO220-3
IPP60R099P7	SP001647032	IPP60R099P7XKSA1	PG-TO220-3
IPP60R105CFD7	SP001715624	IPP60R105CFD7XKSA1	PG-TO220-3
IPP60R120C7	SP001385054	IPP60R120C7XKSA1	PG-TO220-3
IPP60R120P7	SP001647028	IPP60R120P7XKSA1	PG-TO220-3
IPP60R125C6	SP000685844	IPP60R125C6XKSA1	PG-TO220-3
IPP60R125CFD7	SP001686028	IPP60R125CFD7XKSA1	PG-TO220-3
IPP60R125CP	SP000088488	IPP60R125CPXKSA1	PG-TO220-3
IPP60R125P6	SP001114648	IPP60R125P6XKSA1	PG-TO220-3
IPP60R145CFD7	SP001715646	IPP60R145CFD7XKSA1	PG-TO220-3
IPP60R160C6	SP000652796	IPP60R160C6XKSA1	PG-TO220-3
IPP60R160P6	SP001017068	IPP60R160P6XKSA1	PG-TO220-3
IPP60R160P7	SP001866174	IPP60R160P7XKSA1	PG-TO220-3
IPP60R165CP	SP000084279	IPP60R165CPXKSA1	PG-TO220-3
IPP60R170CFD7	SP001617974	IPP60R170CFD7XKSA1	PG-TO220-3
IPP60R180C7	SP001277624	IPP60R180C7XKSA1	PG-TO220-3
IPP60R180P7	SP001606038	IPP60R180P7XKSA1	PG-TO220-3

Qualification Test Report (1/2)

RESTRICTED



PCN 2019-139-A

Date: 2020-01-01

Change of mold compound material affecting products in package PG-TO220-3 and PG-TO262-3 from ASE (Weihai), Inc.

Reason for choosing following test vehicles in TO220/TO262 package:

IPP60R099CP: big chip size, covers CP 600V technology
 IPI60R190C6: medium chip size, covers C6 600V technology
 IPP60R070CFD7: medium chip size, covers CFD7 600V technology
 IPP80R600P7: small chip size, covers P7 800V technology
 IPP65R110CFD: big chip size, covers CFD 650V technology

Extension of qualification: all CoolMOS products in TO220 and TO262 in ASE Weihai

Assessment of Qualification Test Results: PASS

Stress test	Abbreviation	Test conditions	Readout	IPP60R099CP	IPI60R190C6	IPP60R070CFD7	IPP80R600P7	IPP65R110CFD
Temperature Cycling JESD22 A104	TC	-55°C - +150°C	0 c	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77
			500 c	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77
			1000 c	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77
Unbiased Highly Accelerated Stress Test JESD22 A118	UHAST	130°C / 85% rh	0 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77
			96 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77
High Humidity High Temperature Reverse Bias JESD22 A101	H3TRB	T = 85 °C RH = 85% VDS = 100 V	0 h	0 / 77	0 / 77	covered by HAST	0 / 77	0 / 77
			168 h	0 / 77	0 / 77		0 / 77	0 / 77
			500 h	0 / 77	0 / 77		0 / 77	0 / 77
			1000 h	0 / 77	0 / 77		0 / 77	0 / 77
Highly Accelerated Stress Test JESD22 A110	HAST	130°C / 85% RH VDS =100V	0 h	covered by	covered by	0 / 77	covered by	covered by
			96 h	H3TRB	H3TRB	0 / 77	H3TRB	H3TRB
High Temperature Reverse Bias JESD22 A-108	HTRB	Ta ≥ 150°C V ≥ 80% VDS max	0 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77
			168 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77
			500 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77
			1000 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77
High Temperature Gate stress JESD22 A108	HTGS	Ta = 150 °C VGS = ±20 V	0 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77
			168 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77
			500 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77
			1000 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77
Intermitted Operational Life Test MIL-STD 750/Meth.1037	IOL	Delta T = 100 K	0 c	0 / 77	covered by the other 3 test vehicles	0 / 77	0 / 77	covered by the other 3 test vehicles
			7500 c	0 / 77		0 / 77	0 / 77	
			15000 c	0 / 77		0 / 77	0 / 77	
Resistance to Solder Heat JESD22 B106	RSH	3x Solder dipping @ 270 °C,7s	0 h	0 / 22	0 / 22	covered by the other 3 test vehicles	0 / 22	covered by the other 3 test vehicles
			RSH	0 / 22	0 / 22		0 / 22	0 / 22
Electrical Distribution JESD86	ED	-55 °C +25 °C +150 °C		0 / 50	0 / 50	0 / 50	0 / 50	0 / 50
				0 / 50	0 / 50	0 / 50	0 / 50	0 / 50
				0 / 50	0 / 50	0 / 50	0 / 50	0 / 50

Qualification Test Report (2/2)

RESTRICTED



PCN 2019-139-A

Date: 2020-01-01

Change of mold compound material affecting products in package PG-TO220-3 and PG-TO262-3 from ASE (Weihai), Inc.

Reason for choosing following test vehicles in TO220/TO262 package:

IPI037N08N3 G, IPP126N10N3, IPI075N15N3 G, IPP110N20N3 G: cover OptiMOS 3 wafer technology from 80 to 200V from smallest to biggest chip size

IPP024N06N3 G and IPP034N03L G cover OptiMOS 4 wafer technology

Extension of qualification: all OptiMOS products in TO220 and TO262 in ASE Weihai

Assessment of Qualification Test Results: PASS

Stress test	Abbreviation	Test conditions	Readout	IPP126N10N3	IPP110N20N3 G	IPP024N06N3 G	IPI037N08N3 G	IPP034N03L G	IPI075N15N3 G
Temperature Cycling JESD22 A104	TC	-55°C - +150°C	0 c	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77
			500 c	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77	
			1000 c	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77	
Unbiased Highly Accelerated StressTest JESD22 A118	UHAST	130°C / 85% rh	0 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77
			96 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77	
High Humidity High Temperature Reverse Bias JESD22 A101	H3TRB	T= 85 °C, RH= 85% VDS = 80% BVDSS max (max 100V)	0 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77
			168 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77	
			500 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77	
			1000 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77	
High Temperature Reverse Bias JESD22 A-108	HTRB	Ta ≥ 175°C VDS = 100% of BVDSS	0 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77
			168 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77	
			500 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77	
			1000 h	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77	
High Temperature Gate stress JESD22 A108	HTGS	Tj =175°C, Vgs = +/-20V NL, Vgs = +/-16V LL	0 h	0 / 77	covered by the other 4 test vehicles	0 / 77	covered by the other 4 test vehicles	0 / 77	0 / 77
			168 h	0 / 77		0 / 77			
			500 h	0 / 77		0 / 77			
			1000 h	0 / 77		0 / 77			
Intermitted Operational Life Test MIL-STD 750/Meth.1037	IOL	Delta T = 100 K	0 c	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77
			7500 c	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77	
			15000 c	0 / 77	0 / 77	0 / 77	0 / 77	0 / 77	
Resistance to Solder Heat JESD22 B106	RSH	3x Solder dipping @ 270 °C,7s	0 h	0 / 30	0 / 30	0 / 30	0 / 30	0 / 30	0 / 30
			RSH	0 / 30	0 / 30	0 / 30	0 / 30	0 / 30	
Electrical Distribution JESD86	ED	-55 °C +25 °C +150 °C		0 / 30	0 / 30	0 / 30	0 / 30	0 / 30	0 / 30
				0 / 30	0 / 30	0 / 30	0 / 30	0 / 30	
				0 / 30	0 / 30	0 / 30	0 / 30	0 / 30	