Micro Commercial Components
130 W Cochran St, Unit B
Simi Valley, CA 93065
Tel:818-701-4933

Process Change Notification

Dec-14th-2020

Title: MCC will add a new foundry source for 2N7002/2N7002K series products

PCN#: 121420-1

Planned Effective Date: ASAP

Reliability Data: Available per individual request

Samples contact: Sales@mccsemi.com

For question concerning this notification: techsupport@mccsemi.com

Notification Type:
Final Process/Product Change Notification(FPCN)

MCC will consider this change approved unless specific conditions of acceptance are provided in writing within 30 days of receipt of this notice. To do so, contact techsupport@mccsemi.com

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Description and purpose :

To improve our current lead time of 2N7002/2N7002K series mosfet, MCC will add a new foundry source(VIS-Vanguard International Semiconductor Corporation).

Internal qualification process had been finished and the result showed the parts from new foundry still exactly met our specification(See below pages for qualification reports)

For any concern about this PCN, please feel free to contact your local sales representative or us directly via above E-mail address.

Affected pn#s list:

2N7002KL3-TP

2N7002K-TP

2N7002KA-TP

2N7002KW-TP

2N7002KWA-TP

2N7002KT-TP

2N7002T-TP

2N7002KV-TP

2N7002KM-TP

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Reliability Report

Part Number:2N7002K/2N7002KA

Date: 2020-11-04

Test Results

Test Item	Conditions	Duration	Quantity	Rejects
TEST Pre- and Post-Stress Electrical Test	T_a = 25 °C	N/A	all parts	see below
PC Preconditioning	JESD22A-113 Bake T_a = 125 °C Soak T_a = 85 °C, RH = 85%Reflow soldering	24 hours 168 hours 3 cycles	77Pcs	0
HTRB High Temperature Reverse Bias	JESD22-A108 $T_j = T_{jmax}$, V_R > 80% VDSS	1000 hours	77Pcs	0
TC Temperature Cycling	JESD22-A104 -55 °C to T_{jmax}	1000 cycles	77Pcs	0
AC Autoclave	JESD22-A102 T_a = 121 °C, RH = 100 % Pressure = 2atm	96 hours	77Pcs	0
H3TRB High Humidity High Temperature Reverse Bias	JESD22-A101 T_a = 85 °C, RH = 85%, V_R > 80 % VDSS	1000 hours	77Pcs	0
IOL Intermittent Operating Life	MIL-STD-750 Method 1037 $t_{on} = t_{off}$, devices powered to insure ΔT_j = 100 °C for 15000 cycles	1000 hours	77Pcs	0
RSH Resistance to Solder Heat	JESD22-A111 / JESD22-B106 260 °C (+5,-0) °C	10 s	77Pcs	0
SD Solderability	J-STD-002 245 °C ± 5 °C	3 s	77Pcs	0
LTSL Low Temperature Storage Life	JESD22-A119 Ta≤-55℃	1000 hours	77Pcs	0
HTSL High Temperature Storage Life	JESD22-A103 Ta≥150℃	1000 hours	77Pcs	0
HTGB High Temperature Gate Bias	JESD22-A108 150°C ,100%VGS	1000 hours	77Pcs	0

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Reliability Report

Part Number:2N7002KL3

Date: 2020-11-08

Test Results

Test Item	Conditions	Duration	Quantity	Rejects
TEST Pre- and Post-Stress Electrical Test	T_a = 25 °C	N/A	all parts	see below
PC Preconditioning	JESD22A-113 Bake T_a = 125 °C Soak T_a = 85 °C, RH = 85%Reflow soldering	24 hours 168 hours 3 cycles	77Pcs	0
HTRB High Temperature Reverse Bias	JESD22-A108 $T_j = T_{jmax}$, V_R > 80% VDSS	1000 hours	77Pcs	0
TC Temperature Cycling	JESD22-A104 -55 °C to T_{jmax}	1000 cycles	77Pcs	0
AC Autoclave	JESD22-A102 T_a = 121 °C, RH = 100 % Pressure = 2atm	96 hours	77Pcs	0
H3TRB High Humidity High Temperature Reverse Bias	JESD22-A101 T_a = 85 °C, RH = 85%, V_R > 80 % VDSS	1000 hours	77Pcs	0
IOL Intermittent Operating Life	MIL-STD-750 Method 1037 $t_{on} = t_{off}$, devices powered to insure ΔT_j = 100 °C for 15000 cycles	1000 hours	77Pcs	0
RSH Resistance to Solder Heat	JESD22-A111 / JESD22-B106 260 °C (+5,-0) °C	10 s	77Pcs	0
SD Solderability	J-STD-002 245 °C ± 5 °C	3 s	77Pcs	0
LTSL Low Temperature Storage Life	JESD22-A119 Ta≤-55℃	1000 hours	77Pcs	0
HTSL High Temperature Storage Life	JESD22-A103 Ta≥150℃	1000 hours	77Pcs	0
HTGB High Temperature Gate Bias	JESD22-A108 150°C ,100%VGS	1000 hours	77Pcs	0

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Reliability Report

Part Number:2N7002KW/2N7002KWA

Date: 2020-11-17

Test Results

Test Item	Conditions	Duration	Quantity	Rejects
TEST Pre- and Post-Stress Electrical Test	T_a = 25 °C	N/A	all parts	see below
PC Preconditioning	JESD22A-113 Bake T_a = 125 °C Soak T_a = 85 °C, RH = 85%Reflow soldering	24 hours 168 hours 3 cycles	77Pcs	0
HTRB High Temperature Reverse Bias	JESD22-A108 $T_j = T_{jmax}$, V_R > 80% VDSS	1000 hours	77Pcs	0
TC Temperature Cycling	JESD22-A104 -55 °C to T_{jmax}	1000 cycles	77Pcs	0
AC Autoclave	JESD22-A102 T_a = 121 °C, RH = 100 % Pressure = 2atm	96 hours	77Pcs	0
H3TRB High Humidity High Temperature Reverse Bias	JESD22-A101 T_a = 85 °C, RH = 85%, V_R > 80 % VDSS	1000 hours	77Pcs	0
IOL Intermittent Operating Life	MIL-STD-750 Method 1037 $t_{on} = t_{off}$, devices powered to insure ΔT_j = 100 °C for 15000 cycles	1000 hours	77Pcs	0
RSH Resistance to Solder Heat	JESD22-A111 / JESD22-B106 260 °C (+5,-0) °C	10 s	77Pcs	0
SD Solderability	J-STD-002 245 °C ± 5 °C	3 s	77Pcs	0
LTSL Low Temperature Storage Life	JESD22-A119 Ta≤-55℃	1000 hours	77Pcs	0
HTSL High Temperature Storage Life	JESD22-A103 Ta≥150℃	1000 hours	77Pcs	0
HTGB High Temperature Gate Bias	JESD22-A108 150°C ,100%VGS	1000 hours	77Pcs	0

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Reliability Report

Part Number:2N7002T/2N7002KT

Date: 2020-11-19

Test Results

Test Item	Conditions	Duration	Quantity	Rejects
TEST Pre- and Post-Stress Electrical Test	T_a = 25 °C	N/A	all parts	see below
PC Preconditioning	JESD22A-113 Bake T_a = 125 °C Soak T_a = 85 °C, RH = 85%Reflow soldering	24 hours 168 hours 3 cycles	77Pcs	0
HTRB High Temperature Reverse Bias	JESD22-A108 $T_j = T_{jmax}$, V_R > 80% VDSS	1000 hours	77Pcs	0
TC Temperature Cycling	JESD22-A104 -55 °C to T_{jmax}	1000 cycles	77Pcs	0
AC Autoclave	JESD22-A102 T_a = 121 °C, RH = 100 % Pressure = 2atm	96 hours	77Pcs	0
H3TRB High Humidity High Temperature Reverse Bias	JESD22-A101 T_a = 85 °C, RH = 85%, V_R > 80 % VDSS	1000 hours	77Pcs	0
IOL Intermittent Operating Life	MIL-STD-750 Method 1037 $t_{on} = t_{off}$, devices powered to insure ΔT_j = 100 °C for 15000 cycles	1000 hours	77Pcs	0
RSH Resistance to Solder Heat	JESD22-A111 / JESD22-B106 260 °C (+5,-0) °C	10 s	77Pcs	0
SD Solderability	J-STD-002 245 °C ± 5 °C	3 s	77Pcs	0
LTSL Low Temperature Storage Life	JESD22-A119 Ta≤-55℃	1000 hours	77Pcs	0
HTSL High Temperature Storage Life	JESD22-A103 Ta≥150℃	1000 hours	77Pcs	0
HTGB High Temperature Gate Bias	JESD22-A108 150°C ,100%VGS	1000 hours	77Pcs	0

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Reliability Report

Part Number:2N7002KV

Date: 2020-11-21

Test Results

Test Item	Conditions	Duration	Quantity	Rejects
TEST Pre- and Post-Stress Electrical Test	T_a = 25 °C	N/A	all parts	see below
PC Preconditioning	JESD22A-113 Bake T_a = 125 °C Soak T_a = 85 °C, RH = 85%Reflow soldering	24 hours 168 hours 3 cycles	77Pcs	0
HTRB High Temperature Reverse Bias	JESD22-A108 $T_j = T_{jmax}$, V_R > 80% VDSS	1000 hours	77Pcs	0
TC Temperature Cycling	JESD22-A104 -55 °C to T_{jmax}	1000 cycles	77Pcs	0
AC Autoclave	JESD22-A102 T_a = 121 °C, RH = 100 % Pressure = 2atm	96 hours	77Pcs	0
H3TRB High Humidity High Temperature Reverse Bias	JESD22-A101 T_a = 85 °C, RH = 85%, V_R > 80 % VDSS	1000 hours	77Pcs	0
IOL Intermittent Operating Life	MIL-STD-750 Method 1037 $t_{on} = t_{off}$, devices powered to insure ΔT_j = 100 °C for 15000 cycles	1000 hours	77Pcs	0
RSH Resistance to Solder Heat	JESD22-A111 / JESD22-B106 260 °C (+5,-0) °C	10 s	77Pcs	0
SD Solderability	J-STD-002 245 °C ± 5 °C	3 s	77Pcs	0
LTSL Low Temperature Storage Life	JESD22-A119 Ta≤-55℃	1000 hours	77Pcs	0
HTSL High Temperature Storage Life	JESD22-A103 Ta≥150℃	1000 hours	77Pcs	0
HTGB High Temperature Gate Bias	JESD22-A108 150°C ,100%VGS	1000 hours	77Pcs	0

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Reliability Report

Part Number:2N7002KM

Date: 2020-11-24

Test Results

Test Item	Conditions	Duration	Quantity	Rejects
TEST Pre- and Post-Stress Electrical Test	T_a = 25 °C	N/A	all parts	see below
PC Preconditioning	JESD22A-113 Bake T_a = 125 °C Soak T_a = 85 °C, RH = 85%Reflow soldering	24 hours 168 hours 3 cycles	77Pcs	0
HTRB High Temperature Reverse Bias	JESD22-A108 $T_j = T_{jmax}$, V_R > 80% VDSS	1000 hours	77Pcs	0
TC Temperature Cycling	JESD22-A104 -55 °C to T_{jmax}	1000 cycles	77Pcs	0
AC Autoclave	JESD22-A102 T_a = 121 °C, RH = 100 % Pressure = 2atm	96 hours	77Pcs	0
H3TRB High Humidity High Temperature Reverse Bias	JESD22-A101 T_a = 85 °C, RH = 85%, V_R > 80 % VDSS	1000 hours	77Pcs	0
IOL Intermittent Operating Life	MIL-STD-750 Method 1037 $t_{on} = t_{off}$, devices powered to insure ΔT_j = 100 °C for 15000 cycles	1000 hours	77Pcs	0
RSH Resistance to Solder Heat	JESD22-A111 / JESD22-B106 260 °C (+5,-0) °C	10 s	77Pcs	0
SD Solderability	J-STD-002 245 °C ± 5 °C	3 s	77Pcs	0
LTSL Low Temperature Storage Life	JESD22-A119 Ta≤-55℃	1000 hours	77Pcs	0
HTSL High Temperature Storage Life	JESD22-A103 Ta≥150℃	1000 hours	77Pcs	0
HTGB High Temperature Gate Bias	JESD22-A108 150°C ,100%VGS	1000 hours	77Pcs	0