



## Product / Process Change Notification (PCN)

909 N Sepulveda Blvd., Suite 230, El Segundo, CA 90245

**Notification Date:** April 20, 2022

**PCN Number:** PCN220401

**PCN Title:** Material and Process Change

### Product Identification:

The following released to sales part numbers will be impacted by this change:

EPC Part Number
EPC2218

### Description of Change:

As part of continuous improvement efforts, EPC has made process modifications to the manufacturing steps that have improved the process control and manufacturability of the listed impacted devices. These changes will have no impact to form, fit, or function of the devices. However, there are minor changes to the datasheet specification as detailed below. Please consult EPC for applications support if needed.

This change will be in effect for devices shipping with date code of D2225 or later.

### Comparison of Original Datasheet Specification vs. New Process Datasheet:

Maximum Ratings				Change from original datasheet
V <sub>DS</sub>	Drain-to-Source Voltage (Continuous)	100	V	No change
	Drain-to-Source Voltage (up to 10,000 5 ms pulses at 150 °C)	120		No change
I <sub>D</sub>	Continuous (T <sub>A</sub> = 25 °C)	60	A	No change
	Pulsed (25 °C, T <sub>PULSE</sub> = 300 μs)	231		No change
V <sub>GS</sub>	Gate-to-Source Voltage	6	V	No change
	Gate-to-Source Voltage	-4		No change
T <sub>J</sub>	Operating Temperature	-40 to 150	°C	No change
T <sub>STG</sub>	Storage Temperature	-40 to 150		No change

Static Characteristics						Change from original datasheet
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT	
BV <sub>DSS</sub>	Drain-to-Source Voltage	100			V	test condition was 0.4 mA
I <sub>DSS</sub>	Drain Source Leakage		0.002	0.08	mA	typical was 0.08 mA, max was 0.35 mA
I <sub>GSS</sub>	Gate-to-Source Forward Leakage		0.007	0.5		typical was 0.02 mA, max was 0.5 mA
	Gate-to-Source Forward Leakage <sup>#</sup>		1	9		typical was 0.6 mA, no change to max
	Gate-to-Source Reverse Leakage		0.01	0.2		typical was 0.06 mA, max was 0.4 mA
V <sub>GS(TH)</sub>	Gate Threshold Voltage	0.8	1.3	2.5	V	typical was 1.1 V
R <sub>DS(on)</sub>	Drain-Source On Resistance		2.4	3.2	mΩ	No change
V <sub>SD</sub>	Source-to-Drain Forward Voltage		1.5		V	No change

# Defined by design. Not subject to production test.



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Dynamic Characteristics <sup>#</sup>							Change from original datasheet
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT		
C <sub>ISS</sub>	Input Capacitance	V <sub>DS</sub> = 50 V, V <sub>GS</sub> = 0 V	1864	2703		pF	typical was 1189 pF, max was 1570 pF
C <sub>RSS</sub>	Reverse Transfer Capacitance		3.6				typical was 4.3 pF
C <sub>OSS</sub>	Output Capacitance		557	658			typical was 562 pF, max was 843 pF
C <sub>OSS(ER)</sub>	Effective Output Capacitance, Energy Related (Note 1)	V <sub>DS</sub> = 0 to 50 V, V <sub>GS</sub> = 0 V	694			pF	typical was 740 pF
C <sub>OSS(TR)</sub>	Effective Output Capacitance, Time Related (Note 2)		944				typical was 925 pF
R <sub>G</sub>	Gate Resistance		0.4			Ω	No change
Q <sub>G</sub>	Total Gate Charge	V <sub>DS</sub> = 50 V, V <sub>GS</sub> = 5 V, I <sub>D</sub> = 25 A	12.5	16.3		nC	typical was 10.5 nC, max was 13.6 nC
Q <sub>GS</sub>	Gate to Source Charge	V <sub>DS</sub> = 50 V, I <sub>D</sub> = 25 A	4.4				typical was 3.2 nC
Q <sub>GD</sub>	Gate to Drain Charge		1.4				typical was 1.5 nC
Q <sub>G(TH)</sub>	Gate Charge at Threshold		3.2				typical was 1.9 nC
Q <sub>OSS</sub>	Output Charge	V <sub>DS</sub> = 50 V, V <sub>GS</sub> = 0 V	47	54			typical was 46 nC, max was 69 nC
Q <sub>RR</sub>	Source-Drain Recovery Charge		0				No change

# Defined by design. Not subject to production test.

### Last Time Buy:

N/A

### Samples

Contact EPC

### Information Request

If there are any questions, comments or information required regarding this PCN please contact your local EPC Sales Representative.

EPC CONSIDERS THIS CHANGE APPROVED IF WE DO NOT RECEIVE ANY WRITTEN OBJECTION WITHIN 30 DAYS FROM NOTIFICATION DATE OF THIS PCN LETTER.

### EPC Approval:

This PCN has been reviewed and approved by EPC's Quality & Reliability department:

Quality Director: Yanping Ma

Date: 04/20/2022