



Product / Process Change Notification (PCN)

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

Notification Date: March 28, 2022

PCN Number: PCN220301

PCN Title: Material and Process Change

Product Identification:

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

EPC Part Number
EPC2019

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 D2131 or later.

Comparison of Original Datasheet Specification vs. New Process Datasheet:

Maximum Ratings				Change from original datasheet	
V _{DS}	Drain-to-Source Voltage (Continuous)	200	V	No change	
	Drain-to-Source Voltage (up to 10,000 5 ms pulses at 150 °C)	240		Added specification	
I _D	Continuous (T _A = 25 °C)	8.5	A	No change	
	Pulsed (25 °C, T _{PULSE} = 300 μs)	45		Increased from 42 A	
V _{GS}	Gate-to-Source Voltage	6	V	No change	
	Gate-to-Source Voltage	-4		No change	
T _J	Operating Temperature	-40 to 150	°C	No change	
T _{STG}	Storage Temperature	-40 to 150		No change	

Static Characteristics							Change from original datasheet
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT		
BV _{DSS}	Drain-to-Source Voltage	V _{GS} = 0 V, I _D = 125 μA	200			V	No change
I _{DSS}	Drain Source Leakage	V _{DS} = 160 V, V _{GS} = 0 V, T _J = 25 °C		1	100	μA	typical was 20 μA
I _{GSS}	Gate-to-Source Forward Leakage	V _{GS} = 5 V, T _J = 25 °C		0.001	2.5	mA	typical was 0.8 mA
	Gate-to-Source Reverse Leakage	V _{GS} = -4 V, T _J = 25 °C		1	100	μA	typical was 20 μA
V _{GS(TH)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = 1.5 mA	0.8	1.4	2.5	V	No change
R _{DS(on)}	Drain-Source On Resistance	V _{GS} = 5 V, I _D = 7 A		22	42	mΩ	typical was 36, max was 50
V _{SD}	Source-to-Drain Forward Voltage	I _S = 0.5 A, V _{GS} = 0 V		2		V	typical was 1.8 V

Defined by design. Not subject to production test.



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Dynamic Characteristics [#]						Change from original datasheet
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT	
C _{ISS}	Input Capacitance		254	288	pF	typical was 200 pF, max was 270 pF
C _{RSS}	Reverse Transfer Capacitance	V _{DS} = 100 V, V _{GS} = 0 V	1.3			typical was 0.7 pF
C _{OSS}	Output Capacitance		135	163		typical was 110 pF, max was 150 pF
C _{COSS(ER)}	Effective Output Capacitance, Energy Related (Note 1)		V _{DS} = 0 to 100 V, V _{GS} = 0 V	156		
	Effective Output Capacitance, Time Related (Note 2)	201				new specification
R _G	Gate Resistance		0.4		Ω	No change
Q _G	Total Gate Charge	V _{DS} = 100 V, V _{GS} = 5 V, I _D = 7 A	2.4	2.9	nC	typical was 1.8 nC, max was 2.5 nC
Q _{GS}	Gate to Source Charge	V _{DS} = 100 V, I _D = 7 A	0.8			typical was 0.6 nC
Q _{GD}	Gate to Drain Charge		0.6			typical was 0.35 nC
Q _{G(TH)}	Gate Charge at Threshold		0.6			typical was 0.4 nC
Q _{OSS}	Output Charge		V _{DS} = 100 V, V _{GS} = 0 V	20		24
Q _{RR}	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: 03/28/2022