



Product / Process Change Notification (PCN)

909 N Pacific Coast Highway, Suite 230, El Segundo, CA 90245

Notification Date: December 23, 2019

To: Digi-Key Corporation
701 Brooks Avenue South
Thief River Falls, MN 56701 USA

PCN Number: PCN191201

PCN Title: Process Change

Product Identification:

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

EPC Part Number
EPC2021

You are receiving this notice because our records indicated that you have purchased the impacted device in the past two years.

Description of Change:

As part of continuous improvement efforts, we have made process modifications to the manufacturing steps that have improved the process. There is no change to device pin-out. Impacted datasheet parameters are noted in the tables below. Please consult EPC for applications support if needed.

Maximum Ratings				
Parameter		Aug 2019 Datasheet	Dec 2019 Datasheet	Units
V_{DS}	Drain-to-Source Voltage (Continuous)	80	80	V
V_{DS}	Drain-to-Source Voltage (up to 10,000 5 ms pulses at 150°C)	96	96	V
I_D	Continuous ($T_A = 25^\circ\text{C}$)	90	90	A
	Pulsed (25°C , $T_{Pulse} = 300 \mu\text{s}$)	420	390	A
V_{GS}	Gate-to-Source Voltage	6	6	V
	Gate-to-Source Voltage	-4	-4	V
T_J	Operating Temperature	-40 to 150	-40 to 150	°C
T_{STG}	Storage Temperature	-40 to 150	-40 to 150	°C



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Static Characteristics									
PARAMETER		TEST CONDITIONS	Aug 2019 Datasheet			Dec 2019 Datasheet			UNIT
			MIN	TYP	MAX	MIN	TYP	MAX	
BV _{DSS}	Drain-to-Source Voltage	V _{GS} = 0 V, I _D = 500 μA	80			80			V
I _{DSS}	Drain Source Leakage	V _{DS} = 64 V, V _{GS} = 0 V		100	700		20	200	μA
I _{GSS}	Gate-to-Source Forward Leakage	V _{GS} = 5 V, T _J = 25 °C		1	9		0.02	4	mA
	Gate-to-Source Forward Leakage [#]	V _{GS} = 5 V, T _J = 125 °C		N/A	N/A		0.1	9	mA
	Gate-to-Source Reverse Leakage	V _{GS} = -4 V		100	700		20	200	μA
V _{GS(TH)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = 13 mA	0.8	1.4	2.5	0.7	1.2	2.5	V
R _{DS(ON)}	Drain-Source On Resistance	V _{GS} = 5 V, I _D = 29 A		1.8	2.5		1.8	2.2	mΩ
V _{SD}	Source-Drain Forward Voltage	I _S = 0.5 A, V _{GS} = 0 V		1.6			1.5		V

All measurements were done with substrate connected to source.
[#] Defined by design. Not subject to production test.

Dynamic Characteristics									
PARAMETER		TEST CONDITIONS	Aug 2019 Datasheet			Dec 2019 Datasheet			UNIT
			MIN	TYP	MAX	MIN	TYP	MAX	
C _{IS}	Input Capacitance [#]	V _{DS} = 40 V, V _{GS} = 0 V		1650	1980		1610	1940	pF
C _{RSS}	Reverse Transfer Capacitance			20			15		
C _{OSS}	Output Capacitance [#]			970	1460		1100	1650	
C _{OSS(ER)}	Effective Output Capacitance, Energy Related (Note 2)	V _{DS} = 0 to 40 V, V _{GS} = 0 V		1090			1450		
C _{OSS(TR)}	Effective Output Capacitance, Time Related (Note 3)			1310			1790		
R _G	Gate Resistance			0.3			0.3		
Q _G	Total Gate Charge [#]	V _{DS} = 40 V, V _{GS} = 5 V, I _D = 29 A		15	19		15	19	nC
Q _{GS}	Gate to Source Charge	V _{DS} = 40 V, I _D = 29 A		3.4			4.1		
Q _{GD}	Gate to Drain Charge			2.3			3		
Q _{G(TH)}	Gate Charge at Threshold			2.5			2.7		
Q _{OSS}	Output Charge [#]	V _{DS} = 40 V, V _{GS} = 0 V		63	95		72	108	
Q _{RR}	Source-Drain Recovery Charge			0			0		

All measurements were done with substrate connected to source.
[#] Defined by design. Not subject to production test.
 Note 2: C_{OSS(ER)} is a fixed capacitance that gives the same stored energy as C_{OSS} while V_{DS} is rising from 0 to 50% BV_{DSS}.
 Note 3: C_{OSS(TR)} is a fixed capacitance that gives the same charging time as C_{OSS} while V_{DS} is rising from 0 to 50% BV_{DSS}.

This change will be in effect for devices shipping with date code of 10D1918 (work week 18, year 2019) or later.

Last Time Buy:

Contact EPC

Samples

Contact EPC

Information Request

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

EPC Sales Contact: Renee Yawger +1.908.475.5702 (renee.yawger@epc-co.com)
 EPC Engineering Contact: Bhasy Nair +1.972.805.8585 (bhasy.nair@epc-co.com)

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



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EPC Approval:

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

Quality Director: Yanping Ma

Date: 12/23/2019