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

Notification Date: June 23, 2025

PCN Number: PCN250601

PCN Title: EPC2055 FP Rdson Limit Optimization

Product Identification:

EPC2055

Description of Change:

EPC announces the optimization of the Rdson datasheet limit for EPC2055, changing from 3.6mΩ to 4.2mΩ. This modification will also affect the Ciss MAX, changing from 1111pF to 1254pF. All other items in the datasheet remain unchanged.

Successful qualification testing was performed to ensure product quality and reliability requirements are met.

EPC will begin ship the wafer under new Rdson limit for the EPC2055 after customer acceptance of PCN.

Process Flow Comparison:

No Change.

Datasheet Comparison:

Only need to change Rdson MAX and Ciss MAX in datasheet.

Rdson limit: 3.6mΩ -> 4.2mΩ.

Ciss MAX: 1111pF -> 1254pF.

Original EPC2055 Datasheet

Static Characteristics (T_J = 25°C unless otherwise stated)

PARAMETER		TEST CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-to-Source Voltage	V_{GS} = 0 V, I_D = 0.5 mA	40			V
I_{DSS}	Drain-Source Leakage	V_{GS} = 0 V, V_{DS} = 32 V		0.01	0.4	mA
I_{GSS}	Gate-to-Source Forward Leakage	V_{GS} = 5 V		0.01	1.6	
	Gate-to-Source Forward Leakage#	V_{GS} = 5 V, T_J = 125°C		0.1	5	
	Gate-to-Source Reverse Leakage	V_{GS} = -4 V		0.01	0.4	
$V_{GS(TH)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_D = 7 mA	0.7	1.1	2.5	V
$R_{DS(on)}$	Drain-Source On Resistance	V_{GS} = 5 V, I_D = 15 A		3	3.6	mΩ
V_{SD}	Source-Drain Forward Voltage#	I_S = 0.5 A, V_{GS} = 0 V		1.9		V

Dynamic Characteristics# (T_J = 25°C unless otherwise stated)

PARAMETER		TEST CONDITIONS	MIN	TYP	MAX	UNIT
C_{iss}	Input Capacitance	V_{DS} = 20 V, V_{GS} = 0 V		841	1111	pF
C_{rss}	Reverse Transfer Capacitance			8.8		
C_{oss}	Output Capacitance			408	612	

New EPC2055 Datasheet

Static Characteristics (T_J = 25°C unless otherwise stated)

PARAMETER		TEST CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-to-Source Voltage	V_{GS} = 0 V, I_D = 0.5 mA	40			V
I_{DSS}	Drain-Source Leakage	V_{GS} = 0 V, V_{DS} = 32 V		0.01	0.4	mA
I_{GSS}	Gate-to-Source Forward Leakage	V_{GS} = 5 V		0.01	1.6	
	Gate-to-Source Forward Leakage#	V_{GS} = 5 V, T_J = 125°C		0.1	5	
	Gate-to-Source Reverse Leakage	V_{GS} = -4 V		0.01	0.4	
$V_{GS(TH)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_D = 7 mA	0.7	1.1	2.5	V
$R_{DS(on)}$	Drain-Source On Resistance	V_{GS} = 5 V, I_D = 15 A		3	4.2	mΩ
V_{SD}	Source-Drain Forward Voltage#	I_S = 0.5 A, V_{GS} = 0 V		1.9		V

Dynamic Characteristics# (T_J = 25°C unless otherwise stated)

PARAMETER		TEST CONDITIONS	MIN	TYP	MAX	UNIT
C_{iss}	Input Capacitance	V_{DS} = 20 V, V_{GS} = 0 V		841	1254	pF
C_{rss}	Reverse Transfer Capacitance			8.8		
C_{oss}	Output Capacitance			408	612	

Qualification Report:

Available upon request

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Last Time Buy:

N/A

Samples

Contact EPC if samples or additional information is required.

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 Vice President: Yanping Ma

Date: June 23, 2025