

General Description

The CMSA025N04 uses advanced technology to provide excellent RDS (ON) . This device is suitable to be used as the low side FET general purpose.

Features

- RDS(ON)<2.5mΩ @ VGS=10V
- 100% avalanche tested
- RoHS and Halogen-Free Compliant
- High Current Capability

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V _{DS}	Drain-Source Voltage	40	V
V _{GS}	Gate-Source Voltage	±16	V
I _D @T _C =25°C	Continuous Drain Current	100	A
I _D @T _C =100°C	Continuous Drain Current	80	A
I _{DM}	Pulsed Drain Current	400	A
EAS	Single Pulse Avalanche Energy	340	mJ
P _D @T _C =25°C	Total Power Dissipation	85	W
T _{STG}	Storage Temperature Range	-55 to 150	°C
T _J	Operating Junction Temperature Range	-55 to 150	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
R _{θJA}	Thermal Resistance, Junction-to-Ambient	---	62	°C/W
R _{θJC}	Thermal Resistance Junction -Case	---	1.31	°C/W

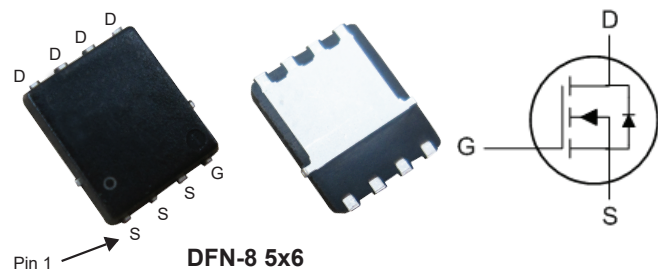
Product Summary

BVDSS	RDSON	ID
40V	2.5mΩ	100A

Applications

- DC/DC Converters in Computing, Servers, and POL
- Isolated DC/DC Converters in Telecom and Industrial

DFN-8 5x6 Pin Configuration



Type	Package	Marking
CMSA025N04	DFN-8 5*6	CMSA025N04

N-Channel Enhancement Mode Field Effect Transistor

Electrical Characteristics (T_J=25°C , unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V , I _D =250uA	40	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V , I _D =50A	---	---	2.5	mΩ
		V _{GS} =4.5V , I _D =50A	---	---	3.9	
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250μA	1	---	2.5	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =32V , V _{GS} =0V	---	---	1	uA
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±16V , V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =10V , I _D =20A	---	22	---	S
R _g	Gate Resistance	V _{DS} =0V , V _{GS} =0V , f=1MHz	---	2.8	---	Ω
Q _g	Total Gate Charge	V _{DD} =20V , I _D =30A V _{GS} =10 V	---	65	---	nC
Q _{gs}	Gate-Source Charge		---	16	---	
Q _{gd}	Gate-Drain Charge		---	7	---	
T _{d(on)}	Turn-On Delay Time	V _{DS} =20V , V _{GS} =10V , I _D =30A R _{GEN} =1.6Ω	---	10	---	ns
T _r	Rise Time		---	6	---	
T _{d(off)}	Turn-Off Delay Time		---	40	---	
T _f	Fall Time		---	6	---	
C _{iss}	Input Capacitance	V _{DS} =20V , V _{GS} =0V , f=1MHz	---	2300	---	pF
C _{oss}	Output Capacitance		---	670	---	
C _{rss}	Reverse Transfer Capacitance		---	50	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Diode continuous forward current	V _G =V _D =0V , Force Current	---	---	100	A
I _{S,pulse}	Diode pulse current		---	---	400	A
V _{SD}	Diode Forward Voltage	V _{GS} =0V , I _F =28A , T _J =25°C	---	---	1.2	V

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