

General Description

The CMSA035N06L uses advanced trench technology to provide excellent RDS (ON), low gate charge and minimize the loss of power conversion applications.

Features

- Low On-Resistance
- 100% avalanche tested
- High Current Capability
- RoHS Compliant

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	60	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D@T_C=25^\circ\text{C}$	Continuous Drain Current	120	A
$I_D@T_C=100^\circ\text{C}$	Continuous Drain Current	95	A
I_{DM}	Pulsed Drain Current	480	A
EAS	Single Pulse Avalanche Energy ¹	840	mJ
$P_D@T_C=25^\circ\text{C}$	Total Power Dissipation	85	W
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ\text{C}$
T_J	Operating Junction Temperature Range	-55 to 150	$^\circ\text{C}$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient(6cm ² cooling area)	---	50	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Thermal Resistance Junction -Case(bottom)	---	1.7	$^\circ\text{C}/\text{W}$

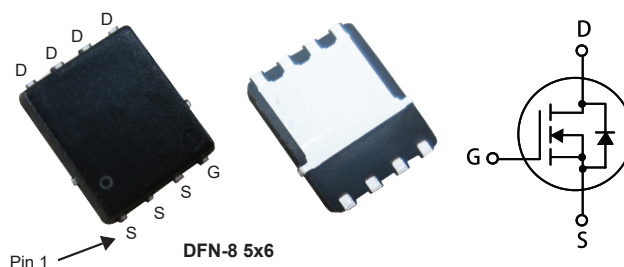
Product Summary

BVDSS	RDS(ON)	ID
60V	3.3m Ω	120A

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
CMSA035N06L	DFN-8 5*6	CMSA035N06L

N-Channel Enhancement Mode Field Effect Transistor

Electrical Characteristics ($T_J=25^{\circ}\text{C}$, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=250\mu A$	60	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V$, $I_D=28A$	---	---	3.3	m Ω
		$V_{GS}=4.5V$, $I_D=28A$	---	---	4.2	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu A$	1	---	3	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=48V$, $V_{GS}=0V$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$, $V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=10V$, $I_D=20A$	---	35	---	S
R_g	Gate Resistance	$V_{DS}=0V$, $V_{GS}=0V$, $f=1MHz$	---	1.2	---	Ω
Q_g	Total Gate Charge	$V_{DD}=30V$, $I_D=26A$ $V_{GS}=10V$	---	41	---	nC
Q_{gs}	Gate-Source Charge		---	14	---	
Q_{gd}	Gate-Drain Charge		---	12	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=30V$, $V_{GS}=10V$, $I_D=26A$ $R_{GEN}=4.7\Omega$	---	25	---	ns
T_r	Rise Time		---	43	---	
$T_{d(off)}$	Turn-Off Delay Time		---	61	---	
T_f	Fall Time		---	23	---	
C_{iss}	Input Capacitance	$V_{DS}=30V$, $V_{GS}=0V$, $f=1MHz$	---	4200	---	pF
C_{oss}	Output Capacitance		---	780	---	
C_{rss}	Reverse Transfer Capacitance		---	12	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Diode continuous forward current	$V_G=V_D=0V$, Force Current	---	---	120	A
$I_{S,pulse}$	Diode pulse current		---	---	480	A
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_F=28A$, $T_J=25^{\circ}\text{C}$	---	---	1	V

Notes:

1.The EAS data shows Max. rating .The test condition is $V_{DS}=30V$, $V_{GS}=10V$, $L=1mH$, $I_{AS}=41A$.

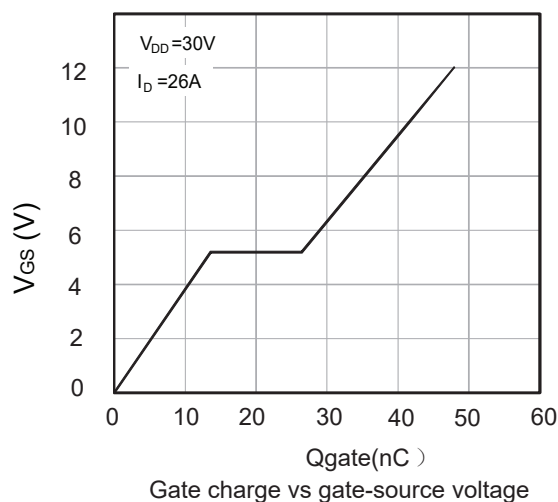
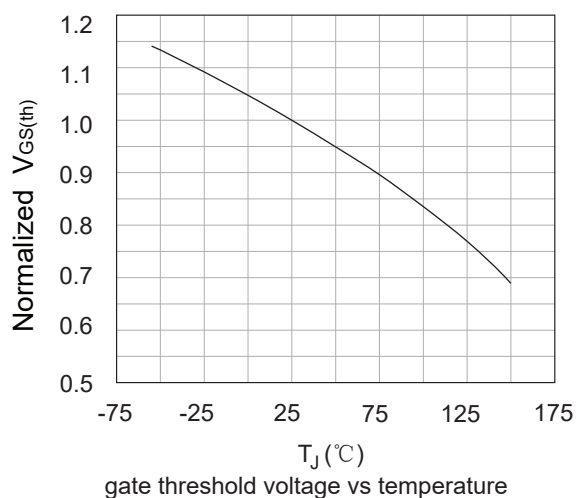
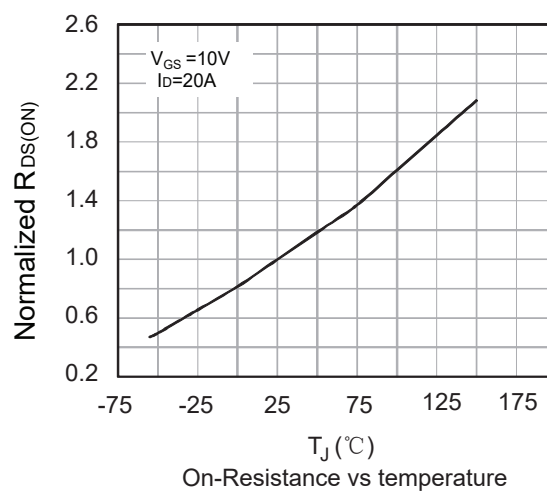
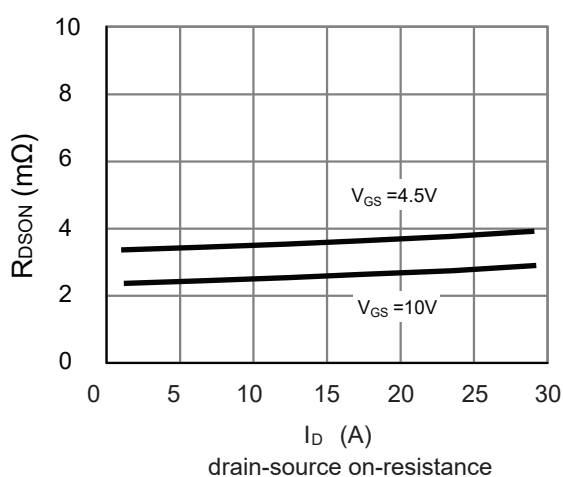
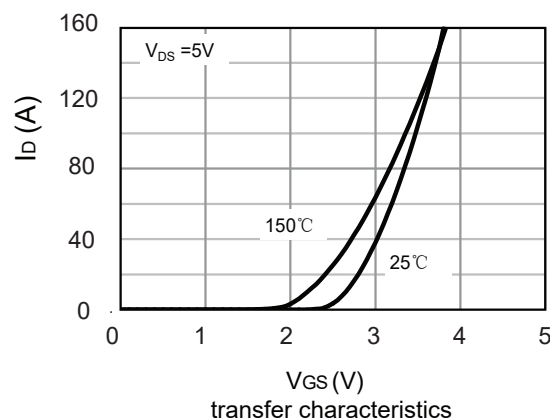
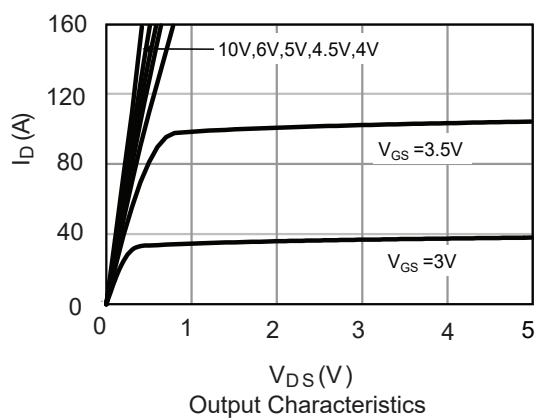
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Cmos reserves the right to improve product design ,functions and reliability without notice.

N-Channel Enhancement Mode Field Effect Transistor

Typical Characteristics



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