

60V N-Channel MOSFET

General Description

The CMH035N06 uses advanced trench technology and design to provide excellent RDS(ON) with low gate charge. These devices are well suited for low voltage applications such as automotive, high efficiency switching for DC/DC converters, and DC motor control.

Features

- 100% avalanche tested
- Fast Switching
- Improved dv/dt capability

Product Summary

BVDSS	RDSON	ID
60V	3.8mΩ	200A

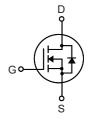
Applications

- Power switching application
- UPS(Uninterruptible Power Supply)
- Hard Switched and High Frequency Circuits
- Inverter

TO-247 Pin Configuration



CMH035N06



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℃	Continuous Drain Current	200	Α
I _D @T _C =100℃	Continuous Drain Current 140		А
I _{DM}	Pulsed Drain Current ¹	800	А
EAS	Single Pulse Avalanche Energy ²	860	mJ
P _D @T _C =25℃	Total Power Dissipation	300	W
T _{STG}	Storage Temperature Range	-55 to 175	$^{\circ}$
TJ	Operating Junction Temperature Range	-55 to 175	$^{\circ}$

Thermal Data

Symbol	Parameter	Тур.	Max.	Unit
$R_{ heta JA}$	Thermal Resistance Junction-ambient		40	°C/W
$R_{ heta JC}$	Thermal Resistance Junction-case		0.54	°C/W



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Electrical Characteristics (T $_{J}$ =25 $^{\circ}$ C , munless otherwise noted)

Symbol	Parameter	Conditions	Min.	Тур.	Max.	Unit
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V , I _D =250uA	60			V
D	Static Drain-Source On-Resistance	V_{GS} =10V , I_D =20A		3.3	3.8	- mΩ
R _{DS(ON)}		V_{GS} =4.5 V , I_D =20 A		4	4.8	
V _{GS(th)}	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250uA$	1		3	V
1	Drain-Source Leakage Current	V _{DS} =60V, V _{GS} =0V			1	- uA
I _{DSS}		V _{DS} =48V, Tc=125℃			10	uA
I _{GSS}	Gate-Source Leakage Current	$V_{GS} = \pm 20V$, $V_{DS} = 0V$			±100	nA
gfs	Forward Transconductance	V _{DS} =10V , I _D =18A		36		S
Q_g	Total Gate Charge	I _D =60A		90		
Q_{gs}	Gate-Source Charge	V _{DS} =30V		21		nC
Q_{gd}	Gate-Drain Charge	V _{GS} = 10V (Note 3)		22		
$T_{d(on)}$	Turn-On Delay Time	V _{DS} =30V		20		
Tr	Rise Time	I _D =60A		15		ns
$T_{d(off)}$	Turn-Off Delay Time	R _G =4.7Ω		56		115
T_f	Fall Time	V _{GS} = 10V (Note 3)		25		
C _{iss}	Input Capacitance			4100		
C _{oss}	Output Capacitance	V _{DS} =25V , V _{GS} =0V , f=1MHz		800		pF
C _{rss}	Reverse Transfer Capacitance			600		

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Тур.	Max.	Unit
Is	Continuous Source Current	-V _G =V _D =0V , Force Current			200	Α
I _{SM}	Pulsed Source Current				800	Α
V _{SD}	Diode Forward Voltage	V _{GS} =0V , I _S =20A			1.5	V

Note

This product has been designed and qualified for the counsumer market.

Cmos assumes no liability for customers' product design or applications.

Cmos reserver the right to improve product design ,functions and reliability wihtout notice.

^{1.}Repetitive Rating: Pulse width limited by maximum junction temperature.

 $^{2.} The \ EAS \ data \ shows \ Max. \ rating \ . The \ test \ condition \ is \ V_{DS}=30V \ , \ V_{GS}=10V \ , \ L=1mH \ , \ I_{AS}=41.5A.$

^{3.} Guaranteed by design, not subject to production.