

100V N-Channel MOSFET

General Description

The CMH044N10 is fabricated using an advanced high voltage MOSFET process that is designed to provide excellent RDS(ON). These devices are well suited for high efficient switched mode power supplies and active power factor correction.

Features

- VDS =100V,ID =180A
 RDS(ON) =4.5mΩ @ VGS=10V
- Low on-resistance
- Fast Switching
- RoHS Compliant

Product Summary

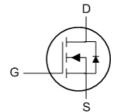
BVDSS	RDSON	ID
100V	4.5mΩ	180A

Applications

- DC-AC converters
- SMPS Power
- UPS (Uninterruptible Power Supply)

TO-247A-LL Pin Configuration





TO-247A-LL

Туре	Package Marking		
CMH044N10	TO-247	CMH044N10	

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units	
V_{DS}	Drain-Source Voltage	100	V	
V_{GS}	Gate-Source Voltage	±20	V	
I _D @T _C =25℃	Continuous Drain Current	180	А	
I _D @T _C =100℃	Continuous Drain Current	145	А	
I _{DM}	Pulsed Drain Current	720	А	
EAS	Single Pulse Avalanche Energy	1600	mJ	
P _D @T _C =25℃	Total Power Dissipation	370	W	
T _{STG}	Storage Temperature Range -55 to 175		$^{\circ}$	
TJ	Operating Junction Temperature Range -55 to 175		$^{\circ}$ C	

Thermal Data

Symbol	Parameter	Тур.	Max.	Unit
$R_{ heta JC}$	Thermal Resistance Junction-case		0.4	°C/W



100V N-Channel MOSFET

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

Symbol	Parameter	Conditions	Min.	Тур.	Max.	Unit
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V , I _D =250uA	100			V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V , I _D =50A			4.5	mΩ
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250uA	2		4	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =100V, V _{GS} =0V			1	uA
I _{GSS}	Gate-Source Leakage Current	V_{GS} =±20V , V_{DS} =0V			±100	nA
gfs	Forward Transconductance	V _{DS} =25V , I _D =20A		37		S
Qg	Total Gate Charge	I _D =75A		150		
Q_gs	Gate-Source Charge	V _{DS} =50V		36		nC
Q_gd	Gate-Drain Charge	V _{GS} = 10V		44		
T _{d(on)}	Turn-On Delay Time	V _{DD} =65V		26		
Tr	Rise Time	I _D =75A		68		no
T _{d(off)}	Turn-Off Delay Time	R _G =2.6Ω		79		ns
T _f	Fall Time	V _{GS} = 10V		89		
Ciss	Input Capacitance			6500		
Coss	Output Capacitance	V _{DS} =25V , V _{GS} =0V , f=1MHz		2100		pF
C _{rss}	Reverse Transfer Capacitance			120		

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Тур.	Max.	Unit
Is	Continuous Source Current	V _G =V _D =0V , Force Current			180	Α
I _{SM}	Pulsed Source Current				720	Α
V _{SD}	Diode Forward Voltage	V _{GS} =0V , I _S =50 A , T _J =25℃			1.2	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.