

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

- $V_{DS} = 100V, I_D = 180A$
 $R_{DS(ON)} = 4.5m\Omega @ V_{GS} = 10V$
- Low on-resistance
- Fast Switching
- RoHS Compliant

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	100	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D @ T_C = 25^\circ C$	Continuous Drain Current	180	A
$I_D @ T_C = 100^\circ C$	Continuous Drain Current	145	A
I_{DM}	Pulsed Drain Current	720	A
EAS	Single Pulse Avalanche Energy	1600	mJ
$P_D @ T_C = 25^\circ C$	Total Power Dissipation	370	W
T_{STG}	Storage Temperature Range	-55 to 175	$^\circ C$
T_J	Operating Junction Temperature Range	-55 to 175	$^\circ C$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JC}$	Thermal Resistance Junction-case	---	0.4	$^\circ C/W$

Product Summary

BVDSS	RDSON	ID
100V	4.5m Ω	180A

Applications

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

TO-247A-LL Pin Configuration



TO-247A-LL

Type	Package	Marking
CMH044N10	TO-247	CMH044N10

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	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
g _{fs}	Forward Transconductance	V _{DS} =25V , I _D =20A	---	37	---	S
Q _g	Total Gate Charge	I _D =75A	---	150	---	nC
Q _{gs}	Gate-Source Charge	V _{DS} =50V	---	36	---	
Q _{gd}	Gate-Drain Charge	V _{GS} = 10V	---	44	---	
T _{d(on)}	Turn-On Delay Time	V _{DD} =65V	---	26	---	ns
T _r	Rise Time	I _D =75A	---	68	---	
T _{d(off)}	Turn-Off Delay Time	R _G =2.6Ω	---	79	---	
T _f	Fall Time	V _{GS} = 10V	---	89	---	
C _{iss}	Input Capacitance	V _{DS} =25V , V _{GS} =0V , f=1MHz	---	6500	---	pF
C _{oss}	Output Capacitance		---	2100	---	
C _{riss}	Reverse Transfer Capacitance		---	120	---	

Diode Characteristics

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

Note :

This product has been designed and qualified for the consumer market.
 Cmos assumes no liability for customers' product design or applications.
 Cmos reserves the right to improve product design ,functions and reliability without notice.