

General Description

The CMH60R070P have been fabricated using an advanced high voltage MOSFET process that is designed to deliver high levels of performance and robustness in popular AC-DC applications. These parts can be adopted quickly into new and existing offline power supply designs.

Features

- Low gate input resistance
- 100% avalanche tested
- RoHS Compliant

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	600	V
V_{GS}	Gate-Source Voltage	± 30	V
$I_D @ T_C = 25^\circ\text{C}$	Continuous Drain Current	55	A
$I_D @ T_C = 100^\circ\text{C}$	Continuous Drain Current	44	A
I_{DM}	Pulsed Drain Current	165	A
EAS	Single Pulse Avalanche Energy	1300	mJ
$P_D @ T_C = 25^\circ\text{C}$	Total Power Dissipation	390	W
T_{STG}	Storage Temperature Range	-55 to 150	°C
T_J	Operating Junction Temperature Range	-55 to 150	°C

Product Summary

BVDSS	RDSON	ID
600V	65mΩ	55A

Applications

- Switching applications

TO-247 Pin Configuration



Type	Package	Marking
CMH60R070P	TO-247	CMH60R070P

Thermal Data

Symbol	Parameter	Rating	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	62	°C/W
$R_{\theta JC}$	Thermal Resistance Junction-case	0.32	°C/W

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$\text{V}_{\text{GS}}=0\text{V}$, $\text{I}_{\text{D}}=250\text{uA}$	600	---	---	V
$\text{R}_{\text{DS(ON)}}$	Static Drain-Source On-Resistance	$\text{V}_{\text{GS}}=10\text{V}$, $\text{I}_{\text{D}}=20\text{A}$	---	---	65	$\text{m}\Omega$
$\text{V}_{\text{GS(th)}}$	Gate Threshold Voltage	$\text{V}_{\text{GS}}=\text{V}_{\text{DS}}$, $\text{I}_{\text{D}}=250\text{uA}$	3	---	5	V
I_{DSS}	Drain-Source Leakage Current	$\text{V}_{\text{DS}}=600\text{V}$, $\text{V}_{\text{GS}}=0\text{V}$	---	---	1	uA
I_{GSS}	Gate-Source Leakage Current	$\text{V}_{\text{GS}}=\pm 30\text{V}$, $\text{V}_{\text{DS}}=0\text{V}$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$\text{V}_{\text{DS}}=15\text{V}$, $\text{I}_{\text{D}}=10\text{A}$	---	26	---	S
Q_{g}	Total Gate Charge	$\text{I}_{\text{D}}=53\text{A}$	---	130	---	nC
Q_{gs}	Gate-Source Charge	$\text{V}_{\text{DS}}=480\text{V}$	---	32	---	
Q_{gd}	Gate-Drain Charge	$\text{V}_{\text{GS}}=10\text{V}$	---	60	---	
$\text{T}_{\text{d(on)}}$	Turn-On Delay Time	$\text{V}_{\text{DS}}=300\text{V}$	---	72	---	ns
T_{r}	Rise Time	$\text{V}_{\text{GS}}=10\text{V}$	---	200	---	
$\text{T}_{\text{d(off)}}$	Turn-Off Delay Time	$\text{I}_{\text{D}}=53\text{A}$	---	412	---	
T_{f}	Fall Time	$\text{R}_{\text{G}}=25\Omega$	---	163	---	
C_{iss}	Input Capacitance	$\text{V}_{\text{DS}}=25\text{V}$, $\text{V}_{\text{GS}}=0\text{V}$, $\text{f}=1\text{MHz}$	---	5700	---	pF
C_{oss}	Output Capacitance		---	2970	---	
C_{rss}	Reverse Transfer Capacitance		---	165	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_{s}	Continuous Source Current	$\text{V}_{\text{G}}=\text{V}_{\text{D}}=0\text{V}$, Force Current	---	---	55	A
I_{SM}	Pulsed Source Current		---	---	165	A
V_{SD}	Diode Forward Voltage	$\text{V}_{\text{GS}}=0\text{V}$, $\text{I}_{\text{s}}=20\text{A}$	---	---	1.2	V
t_{rr}	Reverse Recovery Time	$\text{V}_{\text{GS}}=0\text{V}$, $\text{I}_{\text{s}}=53\text{A}$	---	580	---	ns
Q_{rr}	Reverse Recovery Charge	$\text{dI}_{\text{F}}/\text{dt}=100\text{A}/\mu\text{s}$	---	10	---	μC

Notes:

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.