

General Description

The CMH80R450P is fabricated using an advanced high voltage MOSFET process that is designed to provide excellent RDS(ON) . This advanced technology has been tailored to minimize conduction loss, provide superior switching performance, and withstand extreme dv/dt rate and higher avalanche energy. is suitable for various AC/DC power conversion in switching mode operation for higher efficiency.

Features

- Ultra low gate charge
- Extreme dv/dt rated
- RoHS Compliant

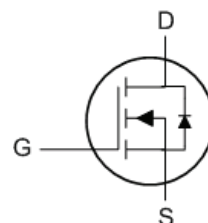
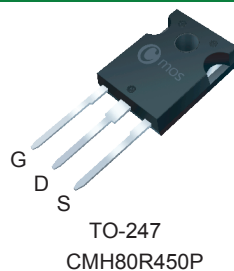
Product Summary

BVDSS	RDSON	ID
800V	0.4Ω	11A

Applications

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

TO247 Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	800	V
V_{GS}	Gate-Source Voltage	± 30	V
$I_D@T_C=25^\circ\text{C}$	Continuous Drain Current	11	A
$I_D@T_C=100^\circ\text{C}$	Continuous Drain Current	7	A
I_{DM}	Pulsed Drain Current	33	A
EAS	Single Pulse Avalanche Energy	260	mJ
$P_D@T_C=25^\circ\text{C}$	Total Power Dissipation	100	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-ambient	---	62	$^\circ\text{C/W}$
$R_{\theta JC}$	Thermal Resistance Junction-case	---	0.8	$^\circ\text{C/W}$

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=250\mu A$	800	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V$, $I_D=7A$	---	---	0.4	Ω
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu A$	2	---	4	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=800V$, $V_{GS}=0V$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 30V$, $V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=15V$, $I_D=4A$	---	9	---	S
Q_g	Total Gate Charge	$I_D=11A$	---	60	---	nC
Q_{gs}	Gate-Source Charge	$V_{DS}=640V$	---	6.5	---	
Q_{gd}	Gate-Drain Charge	$V_{GS}=10V$	---	30	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=400V$ $I_D=11A$ $R_G=7.5\Omega$	---	25	---	ns
T_r	Rise Time		---	15	---	
$T_{d(off)}$	Turn-Off Delay Time		---	75	---	
T_f	Fall Time		---	7	---	
C_{iss}	Input Capacitance	$V_{DS}=25V$, $V_{GS}=0V$, $f=1MHz$	---	2400	---	pF
C_{oss}	Output Capacitance		---	800	---	
C_{rss}	Reverse Transfer Capacitance		---	40	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	$V_G=V_D=0V$, Force Current	---	---	11	A
I_{SM}	Pulsed Source Current		---	---	33	A
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_S=10A$, $T_J=25^{\circ}\text{C}$	---	---	1.4	V

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