

General Description

The CMH4668PT uses advanced process technology and design to provide excellent RDS(ON).

These devices are well suited for high efficient switched mode power supplies and active power factor correction.

Features

- RDS(ON) = 15mΩ @ VGS = 10V
- 100% avalanche tested
- RoHS Compliant

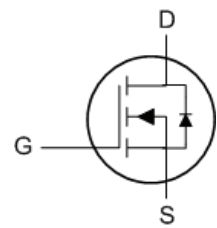
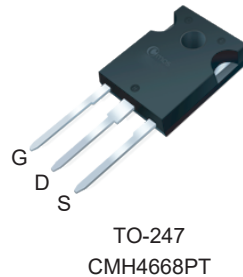
Product Summary

BVDSS	RDS(ON)	ID
200V	15mΩ	130A

Applications

- DC-AC converters
- Motor Control
- UPS (Uninterruptible Power Supply)

TO-247 Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V _{DS}	Drain-Source Voltage	200	V
V _{GS}	Gate-Source Voltage	±20	V
I _D @T _C =25°C	Continuous Drain Current	130	A
I _D @T _C =100°C	Continuous Drain Current	91	A
I _{DM}	Pulsed Drain Current	520	A
EAS	Single Pulse Avalanche Energy ¹	1500	mJ
P _D @T _C =25°C	Total Power Dissipation	430	W
T _{STG}	Storage Temperature Range	-55 to 175	°C
T _J	Operating Junction Temperature Range	-55 to 175	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
R _{θJA}	Thermal Resistance Junction-ambient	---	60	°C/W
R _{θJC}	Thermal Resistance Junction-case	---	0.35	°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	$V_{GS}=0V$, $I_D=250\mu A$	200	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V$, $I_D=18A$	---	11	15	m Ω
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu A$	2.5	---	4.5	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=200V$, $V_{GS}=0V$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$, $V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=10V$, $I_D=18A$	---	47	---	S
R_g	Gate Resistance	$V_{DS}=0V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	3	---	Ω
Q_g	Total Gate Charge	$I_D=20A$	---	55	---	nC
Q_{gs}	Gate-Source Charge	$V_{DD}=100V$	---	18	---	
Q_{gd}	Gate-Drain Charge	$V_{GS}=10V$	---	5	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=100V$	---	15	---	ns
T_r	Rise Time	$V_{GS}=10V$	---	22	---	
$T_{d(off)}$	Turn-Off Delay Time	$I_D=20A$	---	40	---	
T_f	Fall Time	$R_G=10\Omega$	---	10	---	
C_{iss}	Input Capacitance	$V_{DS}=25V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	7000	---	pF
C_{oss}	Output Capacitance		---	2800	---	
C_{rss}	Reverse Transfer Capacitance		---	180	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	$V_G=V_D=0V$, Force Current	---	---	130	A
I_{SM}	Pulsed Source Current		---	---	390	A
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_S=18A$, $T_J=25^{\circ}\text{C}$	---	---	1.2	V

Note :

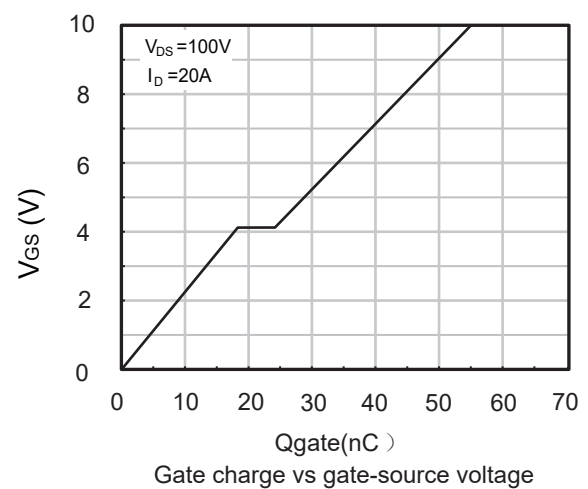
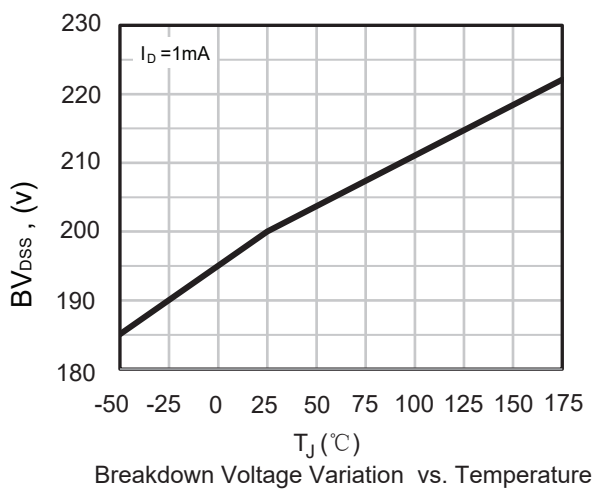
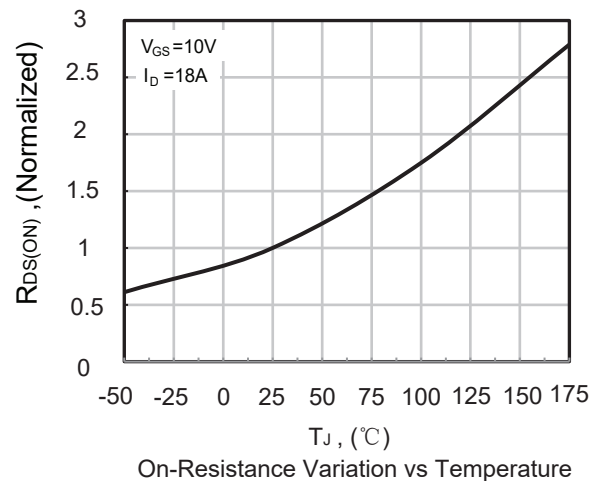
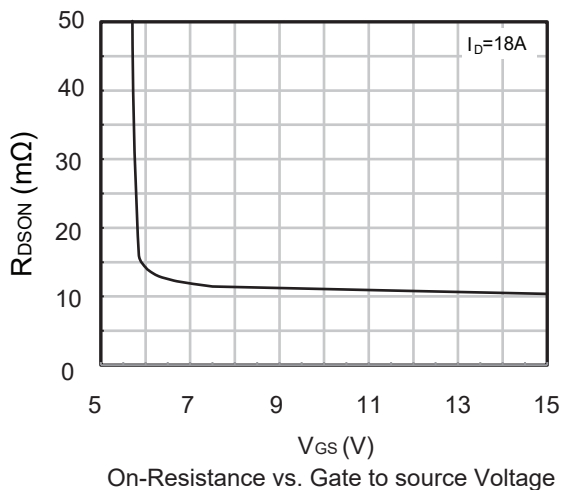
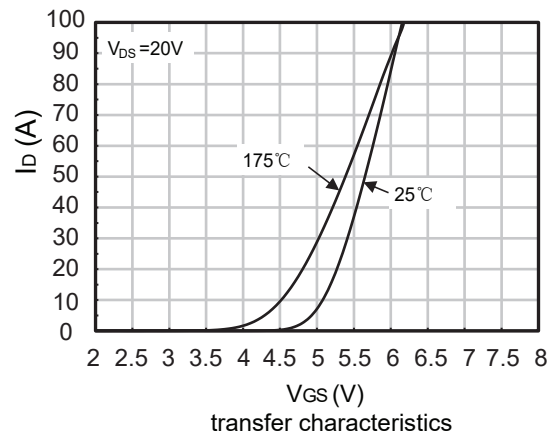
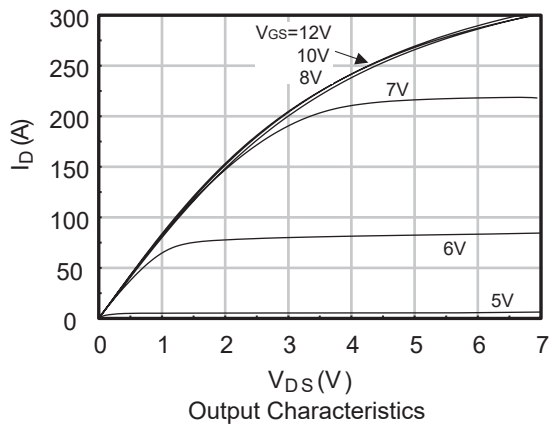
1.The EAS data shows Max. rating . The test condition is $V_{DD}=50V$, $V_{GS}=10V$, $L=1\text{mH}$, $I_{AS}=55A$.

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

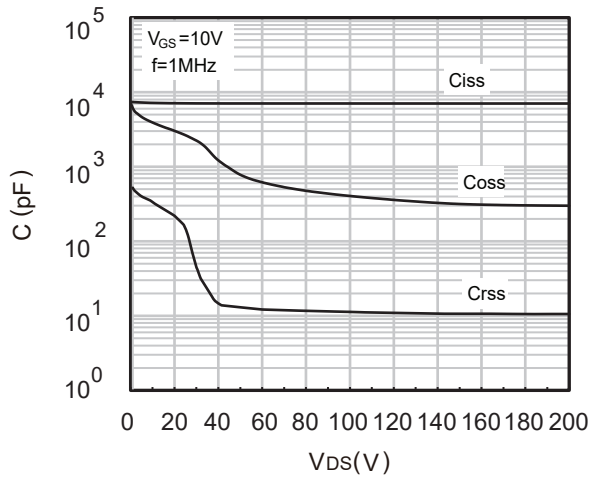
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Cmos reserves the right to improve product design ,functions and reliability without notice.

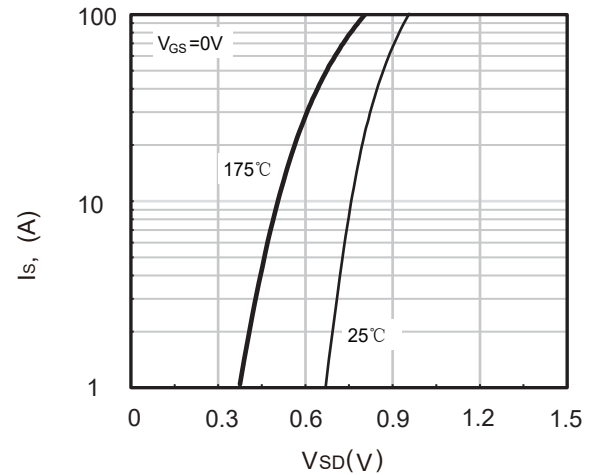
Typical Characteristics



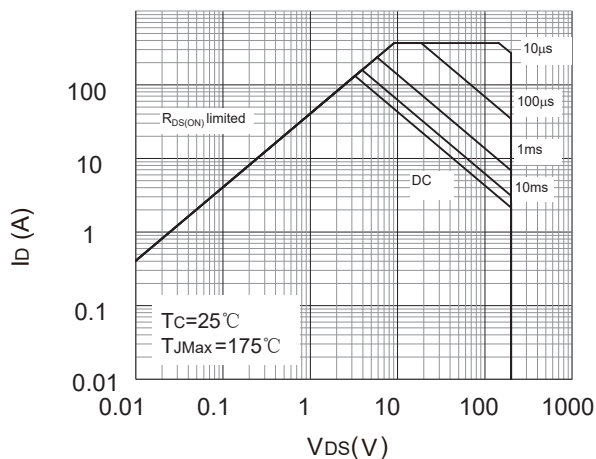
Typical Characteristics



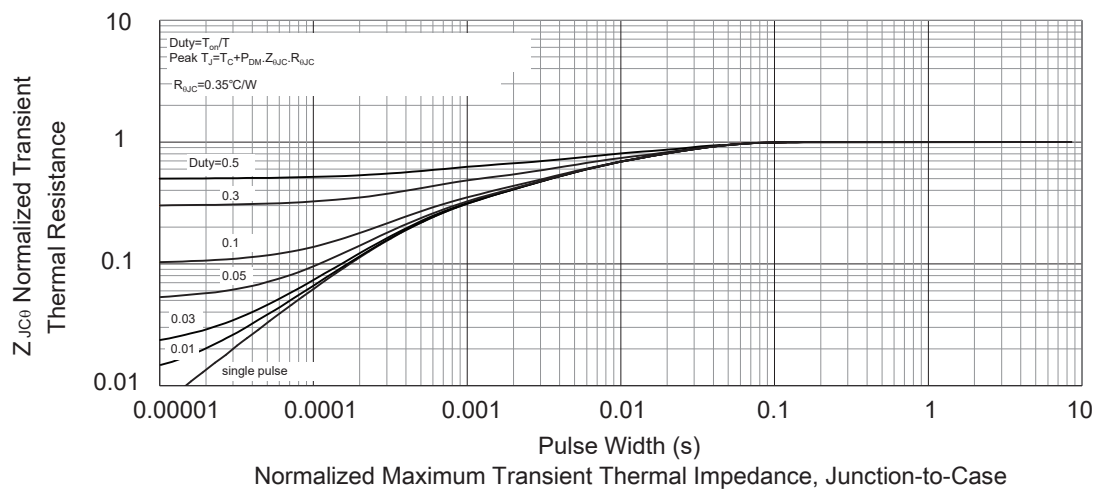
Capacitance Characteristics



Body-Diode Characteristics



Safe operating area



Normalized Maximum Transient Thermal Impedance, Junction-to-Case