CMD60P06/CMU60P06

P-Channel 60-V (D-S) MOSFET

General Description

These P-Channel enhancement mode power field effect transistors use advanced trench technology and design to provide excellent RDS(ON) . this device ideal for use in power management circuitry. Typical applications are PWM DC-DC converters, power management in portable and battery-powered products such as computers,printers,battery charger, telecommunication power system,and telephones power system.

Product Summary

BVDSS	RDSON	ID
-60V	21mΩ	-50A

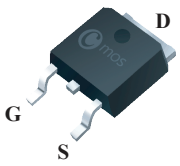
Applications

- DC-DC Converters
- Power Management in Note book
- Load Switch

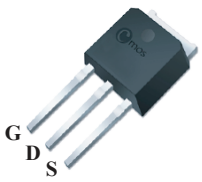
Features

- Fast switching speed
- Lower On-resistance
- 100% EAS Guaranteed
- Simple Drive Requirement

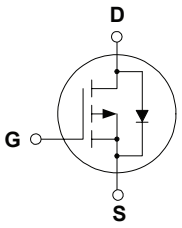
TO-252/251 Pin Configuration



TO-252



TO-251



Type	Package	Marking
CMD60P06	TO-252	CMD60P06
CMU60P06	TO-251	CMU60P06

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-60	V
V_{GS}	Gate-Source Voltage	±20	V
I_D@T_C=25℃	Continuous Drain Current	-50	A
I_D@T_C=100℃	Continuous Drain Current	-40	A
I_{DM}	Pulsed Drain Current	-150	A
EAS	Single Pulse Avalanche Energy [1]	340	mJ
P_D@T_C=25℃	Total Power Dissipation	100	W
T_{STG}	Storage Temperature Range	-55 to 150	℃
T_J	Operating Junction Temperature Range	-55 to 150	℃

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Junction-to-Ambient	---	62	℃/W
$R_{\theta JC}$	Junction-to-Case (Drain)	---	1.22	℃/W

P-Channel 60-V (D-S) MOSFET

Electrical Characteristics (T_J=25℃ , unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V , I_D=-250uA	-60	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=-10V, I_D=-20A	---	---	21	mΩ
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=-4.5V , I_D=-15A	---	---	24	mΩ
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D =-250uA	-1	---	-3	V
I_{DSS}	Drain-Source Leakage Current	V_{DS}=-60V, V_{GS}=0V , T_J=25℃	---	---	-1	uA
I_{GSS}	Gate-Source Leakage Current	V_{GS} =±20V , V_{DS}=0V	---	---	±100	nA
gfs	Forward Transconductance	V_{DS}=-5V , I_D=-10A	---	35	---	S
Q_g	Total Gate Charge	V_{DS}=-48V , I_D=-10A V_{GS}=-10V	---	38	---	nC
Q_{gs}	Gate-Source Charge		---	7	---	
Q_{gd}	Gate-Drain Charge		---	11	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DD}=-48V, V_{GS}=-10V, R_G=25Ω I_D=-5A	---	23	---	ns
T_r	Rise Time		---	72	---	
$T_{d(off)}$	Turn-Off Delay Time		---	104	---	
T_f	Fall Time		---	25	---	
C_{iss}	Input Capacitance	V_{DS}=-25V, V_{GS}=0V , f=1MHz	---	4600	---	pF
C_{oss}	Output Capacitance		---	315	---	
C_{rss}	Reverse Transfer Capacitance		---	127	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	V_G=V_D=0V , Force Current	---	---	-50	A
I_{SM}	Pulsed Source Current		---	---	-150	A
V_{SD}	Diode Forward Voltage	V_{GS}=0V , I_F=-20A	---	---	-1.2	V

Notes:

1.The test condition is V_{DD}=-30V,L=0.5mH,I_D=-37A.

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