CMD3080M/CMU3080M

30V N-Channel MOSFET

General Description

The 3080M uses advanced trench technology and design to provide excellent RDS(ON) with low gate charge. It can be used in a wide variety of applications.The 3080M meet the RoHS and Green Product requirement ,100% EAS guaranteed with full function reliability approved.

Features

- Advanced high cell density Trench technology
- Super Low Gate Charge
- 100% avalanche tested
- RoHS Compliant

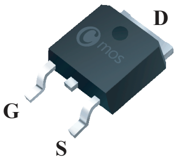
Product Summary

BVDSS	RDSON	ID
30V	7mΩ	80A

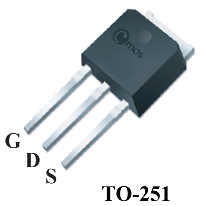
Applications

- High Frequency Point-of-Load Synchronous Buck Converter for MB/NB/UMPC/VGA
- Networking DC-DC Power System
- Load Switch

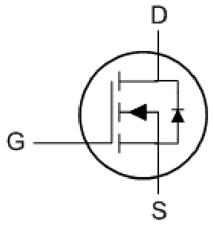
TO252 / TO251 Pin Configuration



TO-252



TO-251



Type	Package	Marking
CMD3080M	TO-252	CMD3080M
CMU3080M	TO-251	CMU3080M

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-Source Voltage	±20	V
I_D@T_C=25˚C	Continuous Drain Current	80	A
I_D@T_C=100˚C	Continuous Drain Current	50	A
I_{DM}	Pulsed Drain Current	240	A
EAS	Single Pulse Avalanche Energy	115	mJ
P_D@T_C=25˚C	Total Power Dissipation	85	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
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	62	˚C/W
$R_{\theta JC}$	Thermal Resistance Junction -Case	---	2	˚C/W

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	30	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=10V , I_D=20A	---	---	7	mΩ
		V_{GS}=4.5V , I_D=15A	---	---	12	
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}= V_{GS}, I_D = 250μA	1	---	3	V
I_{DSS}	Drain-Source Leakage Current	V_{DS}=30V , 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}=10V, I_D=10A	---	23	---	S
R_g	Gate Resistance	V_{DS}=0V , V_{GS}=0V , f=1MHz	---	2	---	Ω
Q_g	Total Gate Charge	V_{DS}=10V , V_{GS}=10V, I_D=30A	---	50	---	nC
Q_{gs}	Gate-Source Charge		---	15	---	
Q_{gd}	Gate-Drain Charge		---	12	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DD}=10V, V_{GS}=10V , R_{GEN}=2.7Ω I_D=30A	---	21	---	ns
T_r	Rise Time		---	16	---	
$T_{d(off)}$	Turn-Off Delay Time		---	66	---	
T_f	Fall Time		---	11	---	
C_{iss}	Input Capacitance	V_{DS}=15V , V_{GS}=0V , f=1MHz	---	1400	---	pF
C_{oss}	Output Capacitance		---	140	---	
C_{rss}	Reverse Transfer Capacitance		---	130	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	V_G=V_D=0V , Force Current	---	---	80	A
I_{SM}	Pulsed Source Current		---	---	240	A
V_{SD}	Diode Forward Voltage	V_{GS}=0V , I_S=20A , T_J=25℃	---	---	1.2	V

Note :