CMD150N03A/CMU150N03A

30V N-Channel MOSFET

General Description

The 150N03A 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.

Product Summary

BVDSS	RDSON	ID
30V	3.0mΩ	150A

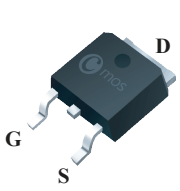
Applications

- Uninterruptible Power Supply
- DC Motor Control
- Load Switch

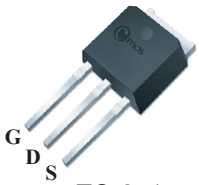
Features

- Simple Drive Requirement
- Fast Switching
- Low On-Resistance

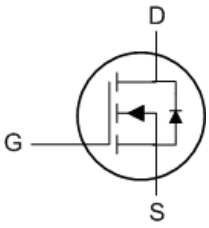
TO-252/251 Pin Configuration



TO-252



TO-251



Type	Package	Marking
CMD150N03A	TO-252	CMD150N03A
CMU150N03A	TO-251	CMU150N03A

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℃	Continuous Drain Current	150	A
I_D@T_C=100℃	Continuous Drain Current[1]	120	A
I_{DM}	Pulsed Drain Current	450	A
EAS	Single Pulse Avalanche Energy	405	mJ
P_D	Total Power Dissipation	130	W
T_{STG}	Storage Temperature Range	-55 to 175	℃
T_J	Operating Junction Temperature Range	-55 to 175	℃

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JC}$	Thermal Resistance Junction-case	---	1.15	℃/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=250μA	30	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=10V , I_D=28A	---	---	3.0	mΩ
		V_{GS}=4.5V , I_D=20A	---	---	6.7	
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D =250uA	1.0	---	3.0	V
I_{DSS}	Drain-Source Leakage Current	V_{DS}=24V , V_{GS}=0V	---	---	1	uA
I_{GSS}	Gate-Source Leakage Current	V_{GS}= ±20V , V_{DS}=0V	---	---	±100	nA
gfs	Forward Transconductance	V_{DS}= 10V , I_D=20A	---	21	---	S
R_g	Gate Resistance	V_{DS}=0V , V_{GS}=0V , f=1MHz	---	2.5	---	Ω
Q_g	Total Gate Charge	I_D=30A V_{DS}=15V V_{GS}=10V	---	40	---	nC
Q_{gs}	Gate-Source Charge		---	10	---	
Q_{gd}	Gate-Drain Charge		---	15	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DD}=15V, I_D=2A R_G=2.5Ω, R_L=15Ω V_{GS}=10V	---	27	---	ns
T_r	Rise Time		---	25	---	
$T_{d(off)}$	Turn-Off Delay Time		---	92	---	
T_f	Fall Time		---	40	---	
C_{iss}	Input Capacitance	V_{DS}=15V , V_{GS}=0V , f=1MHz	---	6000	---	pF
C_{oss}	Output Capacitance		---	1140	---	
C_{rss}	Reverse Transfer Capacitance		---	570	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	V_G=V_D=0V , Force Current	---	---	180	A
I_{SM}	Pulsed Source Current		---	---	540	A
V_{SD}	Diode Forward Voltage	V_{GS}=0V , I_F=15A , T_J=25℃	---	---	1.2	V

Note :

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