CMD482/CMU482

100V, 32mΩ typ., 32A N-Channel MOSFET

General Description

The CMD482/CMU482 uses advanced trench technology and design to provide excellent RDS(ON). This device is ideal for boost converters and synchronous rectifiers for consumer, telecom, industrial power supplies and LED backlighting.

Product Summary

BVDSS	$R_{DS(on)}$ max.	ID
100V	42mΩ	32A

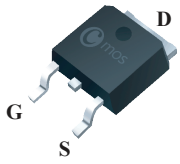
Applications

- LED controller
- Power Supplies
- DC-DC Converters

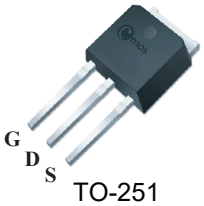
Features

- Low On-Resistance
- 100% avalanche tested
- RoHS Compliant

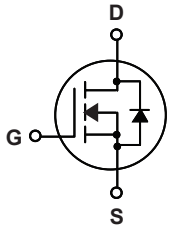
TO-252/251 Pin Configuration



TO-252
(CMD482)



TO-251
(CMU482)



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	100	V
V_{GS}	Gate-Source Voltage	±20	V
I_D@T_C=25℃	Continuous Drain Current	32	A
I_D@T_C=100℃	Continuous Drain Current	22	A
I_{DM}	Pulsed Drain Current	70	A
EAS	Single Pulse Avalanche Energy[1]	156	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
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	50	℃/W
$R_{\theta JC}$	Thermal Resistance Junction -Case	---	1.25	℃/W

100V, 32mΩ typ., 32A N-Channel 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	100	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=10V , I_D=12A	---	32	42	mΩ
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D =250uA	1	---	2.7	V
I_{DSS}	Drain-Source Leakage Current	V_{DS}= 100V , V_{GS}=0V , T_J=25℃	---	---	1	uA
		V_{DS}=100V , V_{GS}=0V , T_J=55℃	---	---	5	
I_{GSS}	Gate-Source Leakage Current	V_{GS}= ±20V , V_{DS}=0V	---	---	±100	nA
gfs	Forward Transconductance	V_{DS}=10V, I_D=30A	---	25	---	S
R_g	Gate Resistance	V_{DS}=0V , V_{GS}=0V , f=1MHz	---	2	---	Ω
Q_g	Total Gate Charge	V_{DS}=50V , V_{GS}=10V, I_D=10A	---	35	---	nC
Q_{gs}	Gate-Source Charge		---	6	---	
Q_{gd}	Gate-Drain Charge		---	9	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DS}=50V , V_{GS}=10V , R_L=5Ω R_{GEN}=3Ω	---	18	---	ns
T_r	Rise Time		---	15	---	
$T_{d(off)}$	Turn-Off Delay Time		---	40	---	
T_f	Fall Time		---	16	---	
C_{iss}	Input Capacitance	V_{DS}=25V , V_{GS}=0V , f=1MHz	---	2600	---	pF
C_{oss}	Output Capacitance		---	150	---	
C_{rss}	Reverse Transfer Capacitance		---	100	---	

Diode Characteristics

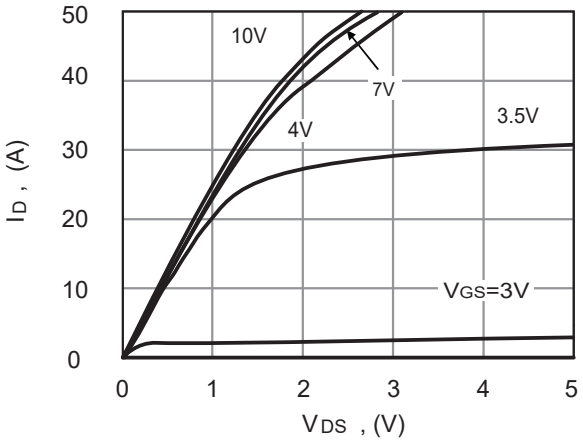
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	V_G=V_D=0V , Force Current	---	---	32	A
V_{SD}	Diode Forward Voltage	V_{GS}=0V , I_S=30A , T_J=25℃	---	---	1.2	V

Note :

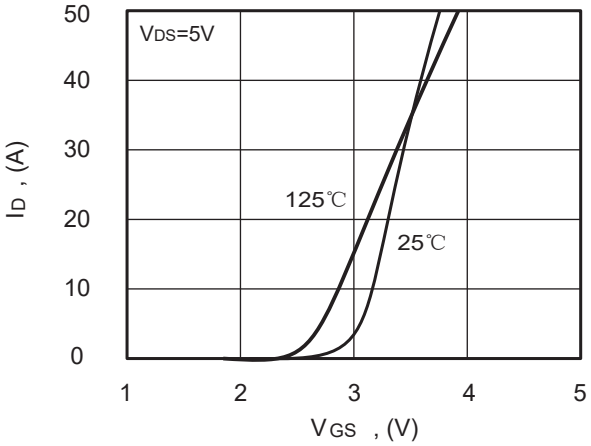
1.The test condition is V_{DD}=50V,V_{GS}=10V,L=0.5mH,I_D=25A

This product has been designed and qualified for the counsumer market.
Cmos assumes no liability for customers' product design or applications.
Cmos reserver the right to improve product design ,functions and reliability wihtout notice.

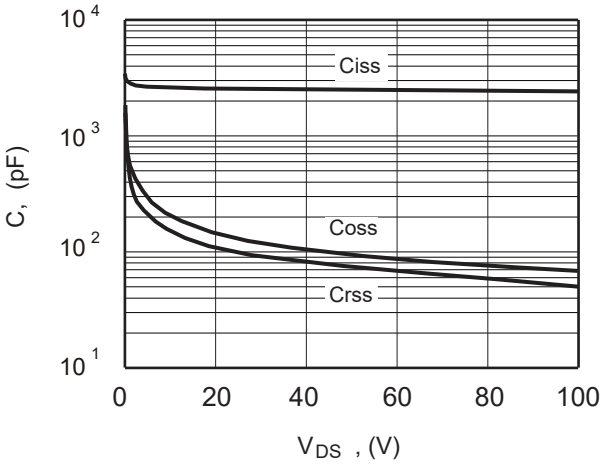
Typical Characteristics



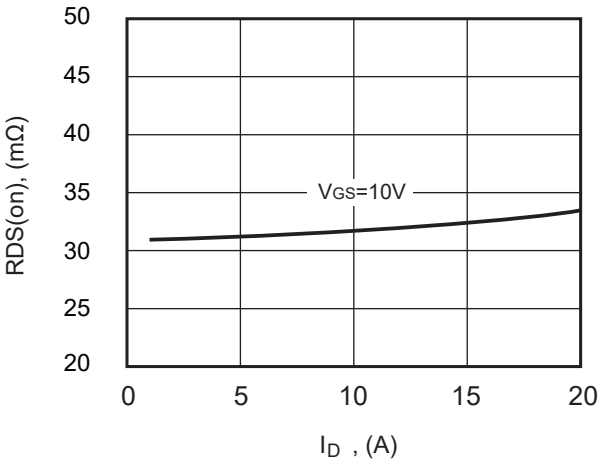
Output Characteristics



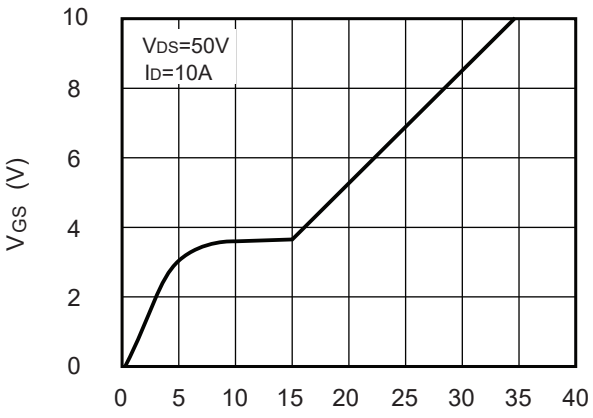
Transfer Characteristics



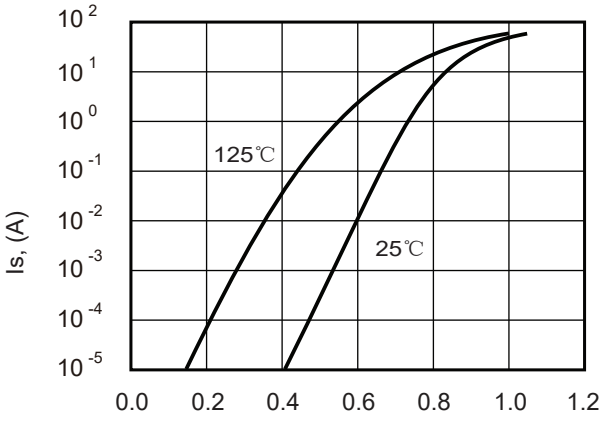
Capacitance Characteristics



On-Resistance vs. Drain Current



Gate-Charge Characteristics



Body-Diode Characteristics