CMD4932/CMU4932

60V P-Channel MOSFET

General Description

The 4932 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.

Features

- Advanced high cell density Trench technology
- Fast switching speed
- Lower On-resistance
- 100% EAS Guaranteed
- Simple Drive Requirement

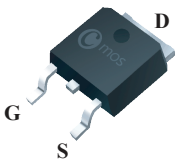
Product Summary

BVDSS	RDSON	ID
-60V	36mΩ	-30A

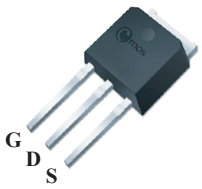
Applications

- DC-DC Converters
- High Side Switch for Full Bridge Converter
- LED controller

TO252 / TO251 Pin Configuration



TO-252
CMD4932



TO-251
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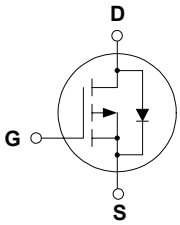

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-60	V
V_{GS}	Gate-Source Voltage	±20	V
I_D@T_C=25°C	Continuous Drain Current	-30	A
I_D@T_C=100°C	Continuous Drain Current	-16	A
I_{DM}	Pulsed Drain Current	-120	A
EAS	Single Pulse Avalanche Energy [1]	180	mJ
P_D@T_C=25°C	Total Power Dissipation	42	W
T_{STG}	Storage Temperature Range	-55 to 150	°C
T_J	Operating Junction Temperature Range	-55 to 150	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	50	°C/W
$R_{\theta JC}$	Thermal Resistance Junction -Case	---	3	°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	-60	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=-5V , I_D=-10A	---	---	55	mΩ
		V_{GS}=-10V , I_D=-15A	---	---	36	
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS} , I_D=-250uA	-1	---	-3	V
I_{DSS}	Drain-Source Leakage Current	V_{DS}=-48V, V_{GS}=0V	---	---	-1	uA
		V_{DS}=-40V, V_{GS}=0V , T_J=55℃	---	---	-10	
I_{GSS}	Gate-Source Leakage Current	V_{GS}=±20V , V_{DS}=0V	---	---	±100	nA
gfs	Forward Transconductance	V_{DS}=-5V , I_D=-25A	---	25	---	S
Q_g	Total Gate Charge	V_{DS}=-30V, V_{GS}=-10V , I_D=-25A	---	39	---	nC
Q_{gs}	Gate-Source Charge		---	13	---	
Q_{gd}	Gate-Drain Charge		---	8	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DS}=-30V,R_L=1Ω I_D=-20A, V_{GS}=-10V , R_G=6Ω	---	30	---	ns
T_r	Rise Time		---	90	---	
$T_{d(off)}$	Turn-Off Delay Time		---	70	---	
T_f	Fall Time		---	15	---	
C_{iss}	Input Capacitance	V_{DS}=-30V, V_{GS}=0V , f=1MHz	---	2500	---	pF
C_{oss}	Output Capacitance		---	130	---	
C_{rss}	Reverse Transfer Capacitance		---	70	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current		---	---	-30	A
V_{SD}	Diode Forward Voltage	V_{GS}=0V , I_F=-25A , T_J=25℃	---	---	-1.3	V

Notes:

1.The EAS data shows Max. rating .The test condition is V_{DS}=-30V , V_{GS}=-10V , L=1mH , I_{AS}=-19A.

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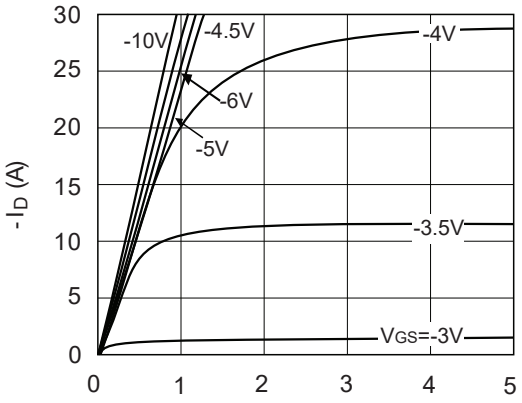
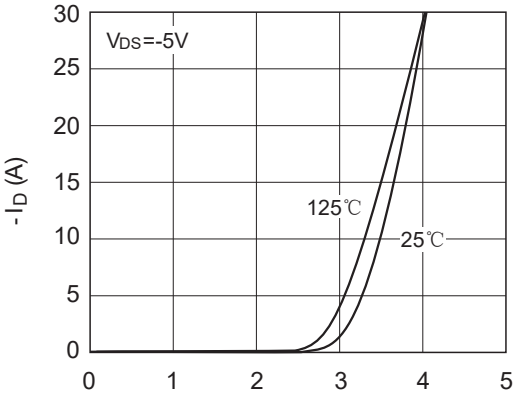
Cmos reserver the right to improve product design ,functions and reliability wihtout notice.

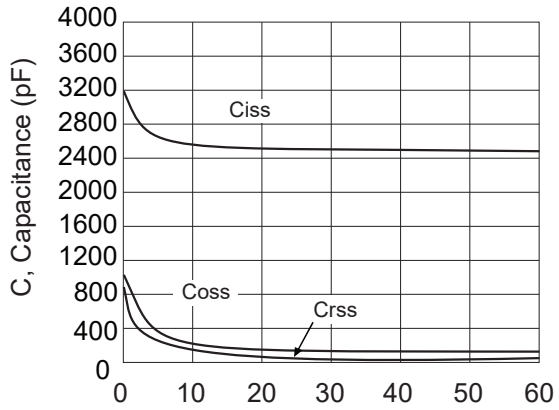
Typical Characteristics



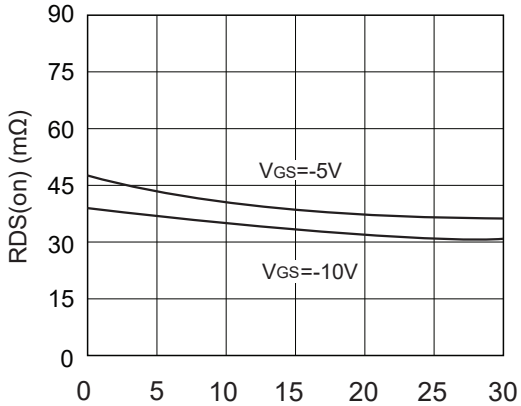
On-RegionCharacteristics



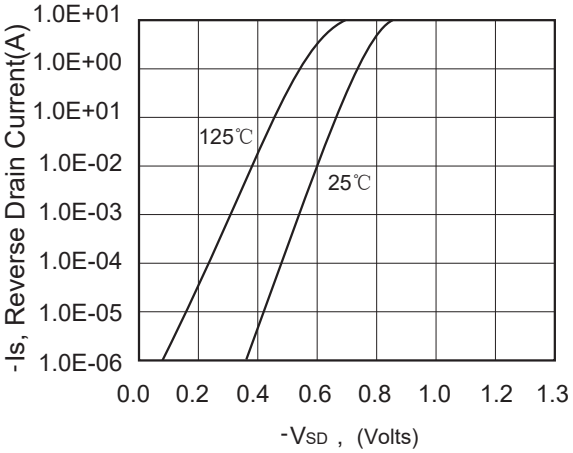
TransferCharacteristics



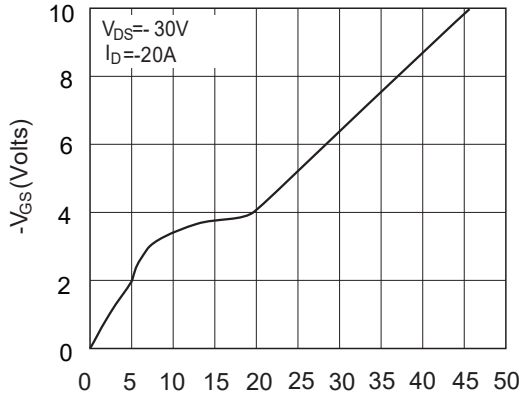
Capacitance Characteristics



On-Resistance vs. Drain Current and Gate Voltage



Body-Diode Characteristics



Gate-Charge Characteristics

Physical Dimensions

TO-252 Package Outline Drawing