CMN2308

N-Channel Enhancement Mode Field Effect Transistor

General Description

The CMN2308 is the N-Channel enhancement mode power field effect transistors using advanced trench technology to provide excellent RDS(ON). These devices are particularly suited for low voltage application , such as high side power loss of mobile phone and notebook computer power management and other battery power supply circuit of the switch and the low line, need to be in a very small outline surface mount package.

Features

- RDS(ON)<105mΩ @ VGS=10V
- RDS(ON)<125mΩ @ VGS=4.5V
- SOT-23 Package

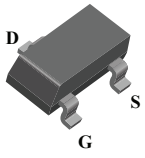
Product Summery

BVDSS	RDSON	ID
60V	105mΩ	3A

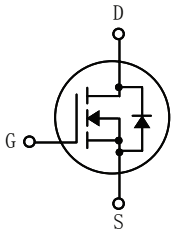
Applications

- DC-DC converters
- Portable Equipment
- LCD Display inverter
- Load Switch

SOT-23 Pin Configuration



SOT-23
(CMN2308)



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	3	A
I_{DM}	Pulsed Drain Current	5	A
P_D@T_C=25°C	Total Power Dissipation	1	W
T_{STG}	Storage Temperature Range	-55 to 150	°C
T_J	Operating Junction Temperature Range	-55 to 150	°C

Thermal Data

Symbol	Parameter	Rating	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	150	°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}=10V , I_D=3A	---	---	105	mΩ
		V_{GS}=4.5V , I_D=3A	---	---	125	
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D =250uA	0.8	---	1.4	V
I_{DSS}	Drain-Source Leakage Current	V_{DS}=60V , V_{GS}=0V	---	---	1	uA
I_{GSS}	Gate-Source Leakage Current	V_{GS}=±20V , V_{DS}=0V	---	---	±100	nA
Q_g	Total Gate Charge	I_D=3A	---	6.8	---	nC
Q_{gs}	Gate-Source Charge	V_{DS}=30V	---	2.5	---	
Q_{gd}	Gate-Drain Charge	V_{GS}=4.5V	---	3.0	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DS}=30V , I_D=0.2A , R_G=25Ω	---	---	40	ns
$T_{d(off)}$	Turn-Off Delay Time		---	---	80	
C_{iss}	Input Capacitance	V_{DS}=25V , V_{GS}=0V , f=1MHz	---	---	550	pF
C_{oss}	Output Capacitance		---	---	125	
C_{rss}	Reverse Transfer Capacitance		---	---	45	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage	V_{GS}=0V , I_S=1A	---	---	1.5	V