CMQ1062

N-Channel Enhancement Mode Field Effect Transistor

General Description

The CMQ1062 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 Summery

BVDSS	RDSON	ID
100V	170mΩ	5A

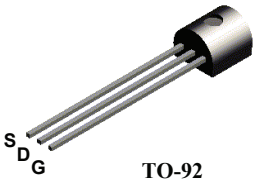
Applications

- Power switching application
- DC-DC & DC-AC converters
- Uninterruptible Power Supply

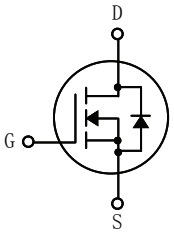
Features

- RDS(ON)<170mΩ @ VGS=10V
- RDS(ON)<200mΩ @ VGS=4.5V
- TO-92 Package

TO-92 Pin Configuration



TO-92
(CMQ1062)



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	100	V
V_{GS}	Gate-Source Voltage	±20	V
I_D@T_A=25℃	Continuous Drain Current	5	A
I_{DM}	Pulsed Drain Current	15	A
P_D@T_A=25℃	Total Power Dissipation	3	W
T_{STG}	Storage Temperature Range	-55 to 150	℃
T_J	Operating Junction Temperature Range	-55 to 150	℃

Thermal Data

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	thermal resistance from junction to ambient	70	K/W

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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=5A	---	---	170	mΩ
		V_{GS}=4.5V , I_D=5A	---	---	200	
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D =250uA	2	---	4	V
I_{DSS}	Drain-Source Leakage Current	V_{DS}=100V , V_{GS}=0V	---	---	10	uA
I_{GSS}	Gate-Source Leakage Current	V_{GS}=±20V , V_{DS}=0V	---	---	±100	nA
Q_g	Total Gate Charge	I_D=3A	---	15	---	nC
Q_{gs}	Gate-Source Charge	V_{DS}=30V	---	2.8	---	
Q_{gd}	Gate-Drain Charge	V_{GS}=10V	---	4.5	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DD}=30V , R_G=10Ω	---	10	---	ns
T_r	Rise Time	V_{GS} =5 V , R_L=1.2 Ω	---	84	---	
$T_{d(off)}$	Turn-Off Delay Time		---	20	---	
T_f	Fall Time		---	25	---	
C_{iss}	Input Capacitance	V_{DS}=25V , V_{GS}=0V , f=1MHz	---	500	---	pF
C_{oss}	Output Capacitance		---	65	---	
C_{rss}	Reverse Transfer Capacitance		---	40	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage	V_{GS}=0V , I_S=5A	---	---	1.2	V