

General Description

The CME10N04 uses advanced process technology and design to provide excellent RDS(ON). This device is suitable for most of the small power switching and load switch applications.

Features

- N-Channel MOSFET
- Low ON-resistance
- Surface Mount Package
- RoHS Compliant

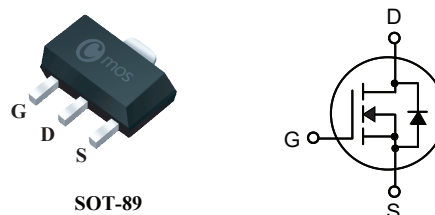
Product Summary

BVDSS	R _{DS(on)} max.	ID
40V	23mΩ	10A

Applications

- DC-DC Converter
- Load switching

SOT-89 Pin Configuration



Type	Package	Marking
CME10N04	SOT-89	10N04

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V _{DS}	Drain-Source Voltage	40	V
V _{GS}	Gate-Source Voltage	±20	V
I _D @T _A =25 °C	Continuous Drain Current	10	A
I _D @T _A =100 °C	Continuous Drain Current	7	A
I _{DM}	Pulsed Drain Current	40	A
P _D @T _A =25 °C	Total Power Dissipation	1.5	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 _{θJA}	Thermal Resistance Junction-ambient	---	83	°C/W
R _{θJC}	Thermal Resistance Junction-case	---	48	°C/W

Electrical Characteristics ($T_J=25^{\circ}\text{C}$, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=250\mu A$	40	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V$, $I_D=5A$	---	19	23	mΩ
		$V_{GS}=4.5V$, $I_D=5A$	---	22	30	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu A$	1	---	3	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=32V$, $V_{GS}=0V$	---	---	1	uA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=5V$, $I_D=5A$	---	4	---	S
Q_g	Total Gate Charge	$V_{DD}=20V$, $I_D=7A$ $V_{GS}=0$ to $10V$	---	14	---	nC
Q_{gs}	Gate-Source Charge		---	2	---	
Q_{gd}	Gate-Drain Charge		---	2.5	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=20V$, $V_{GS}=10V$, $I_D=7A$ $R_{GEN}=6\Omega$	---	7	---	ns
T_r	Rise Time		---	3	---	
$T_{d(off)}$	Turn-Off Delay Time		---	20	---	
T_f	Fall Time		---	2	---	
C_{iss}	Input Capacitance	$V_{DS}=25V$, $V_{GS}=0V$, $f=1MHz$	---	850	---	pF
C_{oss}	Output Capacitance		---	90	---	
C_{rss}	Reverse Transfer Capacitance		---	60	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Diode continuous forward current	$V_G=V_D=0V$, Force Current	---	---	10	A
$I_{S,pulse}$	Diode pulse current		---	---	40	A
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_F=10A$, $T_J=25^{\circ}\text{C}$	---	0.88	1.2	V

Notes:

This product has been designed and qualified for the consumer market.
 Cmos assumes no liability for customers' product design or applications.
 Cmos reserves the right to improve product design, functions and reliability without notice.

Typical Characteristics

