

CME6P03A

-30V, 41mΩ typ., -5.5A P-Channel MOSFET

General Description

The CME6P03A uses advanced process technology and design to provide excellent RDS(ON). This device is suitable for most of the synchronous buck converter applications.

Features

- P-Channel
- Low ON-resistance.
- RoHS Compliant

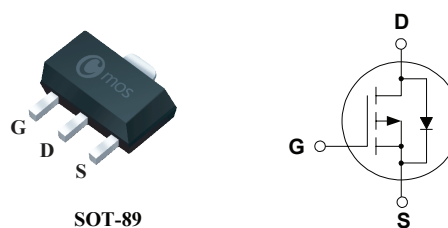
Product Summary

BVDSS	R _{DS(on)} max.	ID
-30V	47mΩ	-5.5A

Applications

- Load Switch
- Networking DC-DC Power System
- High Frequency Point-of-Load Synchronous Buck Converter

SOT-89 Pin Configuration



Type	Package	Marking
CME6P03A	SOT-89	6P03A

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V _{DS}	Drain-Source Voltage	-30	V
V _{GS}	Gate-Source Voltage	±20	V
I _D @T _A =25°C	Continuous Drain Current	-5.5	A
I _D @T _A =70°C	Continuous Drain Current	-3.8	A
I _{DM}	Pulsed Drain Current	-22	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	150	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
R _{θJA}	Thermal Resistance Junction-ambient	---	83	°C/W
R _{θJC}	Thermal Resistance Junction-case	---	30	°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	$V_{GS}=0V$, $I_D=-250\mu A$	-30	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=-10V$, $I_D=-4A$	---	41	47	mΩ
		$V_{GS}=-4.5V$, $I_D=-4A$	---	59	68	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=-250\mu A$	-1	---	-3	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=-30V$, $V_{GS}=0V$	---	---	-1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$, $V_{DS}=0V$	---	---	±100	nA
g_{fs}	Forward Transconductance	$V_{DS}=-5V$, $I_D=-3A$	---	4	---	S
Q_g	Total Gate Charge	$I_D=-5.5A$	---	15	---	nC
Q_{gs}	Gate-Source Charge	$V_{DS}=-15V$	---	2	---	
Q_{gd}	Gate-Drain Charge	$V_{GS}=-10V$	---	4	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=-15V$	---	9	---	ns
T_r	Rise Time	$R_L=2.5\Omega$	---	5	---	
$T_{d(off)}$	Turn-Off Delay Time	$R_{GEN}=3\Omega$	---	28	---	
T_f	Fall Time	$V_{GS}=-10V$	---	13.5	---	
C_{iss}	Input Capacitance	$V_{DS}=-25V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	535	---	pF
C_{oss}	Output Capacitance		---	50	---	
C_{rss}	Reverse Transfer Capacitance		---	40	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	$V_G=V_D=0V$, Force Current	---	---	-5.5	A
I_{SM}	Pulsed Source Current		---	---	-22	A
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_S=-1A$	---	-0.77	-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

