

CME120N06

60V, 11mΩ typ., 20A N-Channel MOSFET

General Description

The CME120N06 uses advanced SGT technology to provide excellent RDS(ON). It can be used in a wide variety of applications.

Product Summary

BVDSS	R _{DS(on)} max.	ID
60V	12mΩ	20A

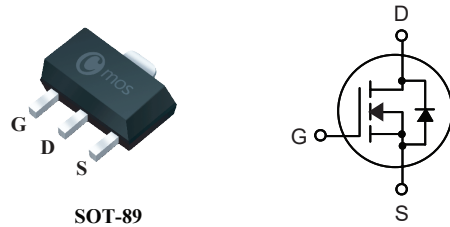
Applications

- DC/DC converter

Features

- Low On-Resistance
- Simple Drive Requirements
- RoHS Compliant

SOT-89 Pin Configuration



SOT-89

Type	Package	Marking
CME120N06	SOT-89	120N06

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V _{DS}	Drain-Source Voltage	60	V
V _{GS}	Gate-Source Voltage	±20	V
I _D @T _A =25°C	Continuous Drain Current	20	A
I _D @T _A =100°C	Continuous Drain Current	14	A
I _{DM}	Pulsed Drain Current	80	A
P _D @T _A =25°C	Total Power Dissipation	3	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	---	41.7	°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	$V_{GS}=0V$, $I_D=250\mu A$	60	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V$, $I_D=10A$	---	11	12	mΩ
		$V_{GS}=4.5V$, $I_D=10A$	---	16	19	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu A$	1.0	---	3.0	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=60V$, $V_{GS}=0V$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$, $V_{DS}=0V$	---	---	±100	nA
g_{fs}	Forward Transconductance	$V_{DS}=10V$, $I_D=10A$	---	14	---	S
R_g	Gate Resistance	$V_{DS}=0V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	1.9	---	Ω
Q_g	Total Gate Charge	$I_D=20A$	---	21	---	nC
Q_{gs}	Gate-Source Charge	$V_{DS}=30V$	---	4.7	---	
Q_{gd}	Gate-Drain Charge	$V_{GS}=10V$	---	2.6	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DS}=30V$	---	7	---	ns
T_r	Rise Time	$V_{GS}=10V$	---	4	---	
$T_{d(off)}$	Turn-Off Delay Time	$R_{GEN}=3\Omega$	---	23	---	
T_f	Fall Time	$R_L=1.5\Omega$	---	4	---	
C_{iss}	Input Capacitance	$V_{DS}=25V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	900	---	pF
C_{oss}	Output Capacitance		---	400	---	
C_{rss}	Reverse Transfer Capacitance		---	45	---	

Diode Characteristics

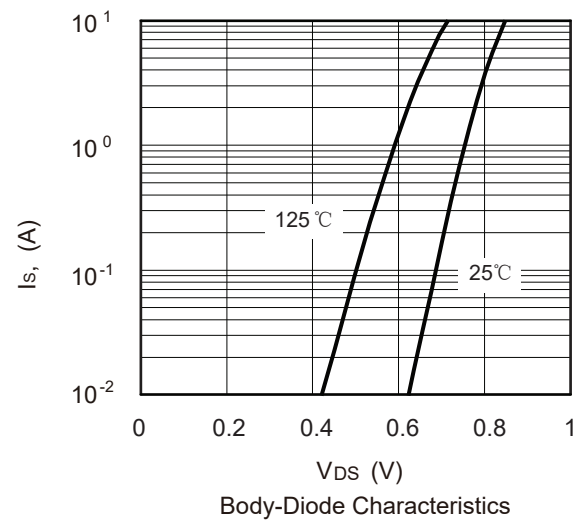
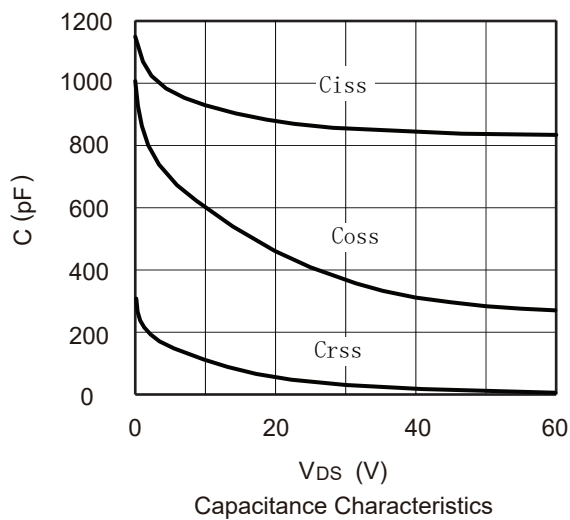
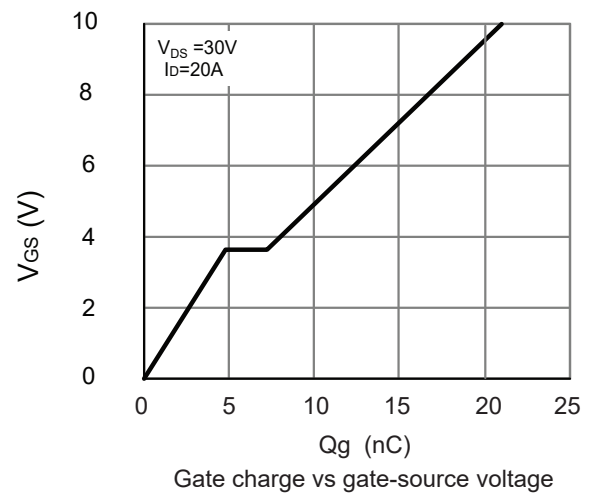
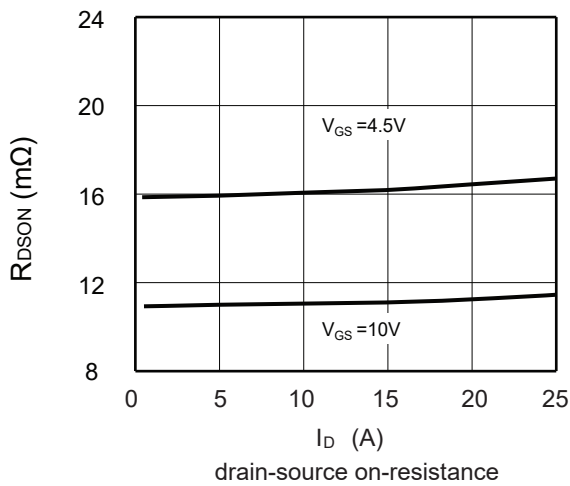
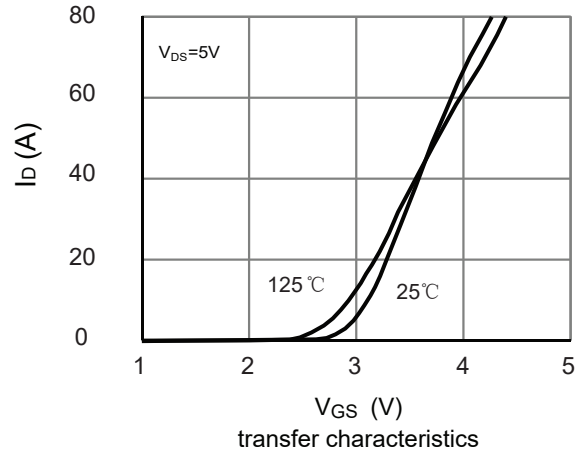
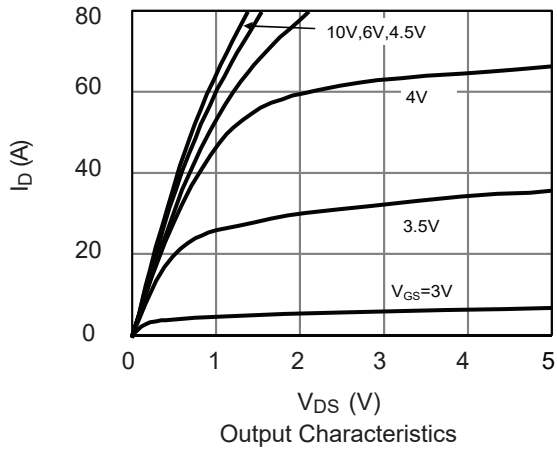
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	$V_G=V_D=0V$, Force Current	---	---	20	A
I_{SM}	Pulsed Source Current		---	---	80	A
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_S=10A$, $T_J=25^{\circ}\text{C}$	---	0.85	1.2	V

Note :

This product has been designed and qualified for the consumer market.

Cmos assumes no liability for customers' product design or applications.

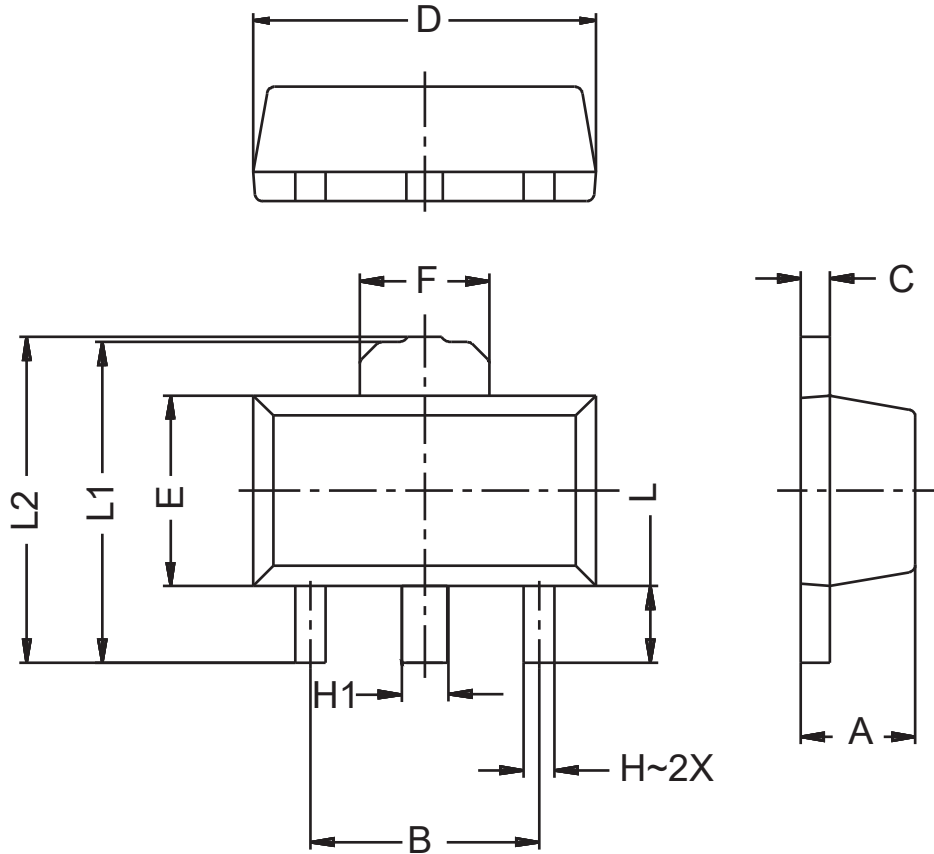
Cmos reserves the right to improve product design ,functions and reliability without notice. Please refer to the latest version of specification.

Typical Characteristics


Package Dimension

SOT-89

Unit :mm



Symbol	Dim in mm		
	Min	Nor	Max
A	1.45	1.50	1.55
B	2.95	3.00	3.05
C	0.37	0.38	0.40
D	4.45	4.50	4.55
E	2.45	2.50	2.55
F	1.65	1.70	1.75
H	0.37	0.40	0.48
H1	0.45	0.48	0.58
L	0.95	1.00	1.05
L1	4.15	4.20	4.25
L2	4.17	4.27	4.37