CMH26N50/CMA26N50

500V, 165mΩ typ., 26A N-Channel MOSFET

General Description

These Power MOSFETs are produced using Cmos's proprietary, planar stripe, DMOS technology.These devices are well suited for high efficient switching mode power supplies and active power factor correction.

Product Summary

BVDSS	$R_{DS(on)}$ max.	ID
500V	190mΩ	26A

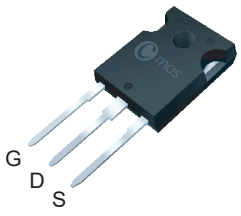
Applications

- Switch Mode Power Supply
- Uninterruptible Power Supply

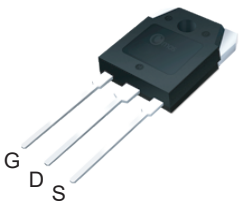
Features

- Improved dv/dt capability
- 100% avalanche tested
- RoHS Compliant

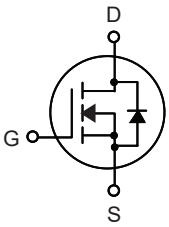
TO-247/TO-3P Pin Configuration



TO-247
CMH26N50



TO-3P
CMA26N50



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	500	V
V_{GS}	Gate-Source Voltage	±30	V
I_D@T_C=25℃	Continuous Drain Current	26	A
I_D@T_C=100℃	Continuous Drain Current	18	A
I_{DM}	Pulsed Drain Current	104	A
EAS	Single Pulse Avalanche Energy (Note 1)	2250	mJ
P_D@T_C=25℃	Total Power Dissipation	350	W
T_{STG}	Storage Temperature Range	-55 to 150	℃
T_J	Operating Junction Temperature Range	-55 to 150	℃

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	62.5	℃/W
$R_{\theta JC}$	Thermal Resistance Junction-case	---	0.36	℃/W

500V, 165mΩ typ., 26A N-Channel MOSFET

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	500	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=10V , I_D=13A	---	165	190	mΩ
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D =250μA	2.5	---	4.5	V
I_{DSS}	Drain-Source Leakage Current	V_{DS}=500V , V_{GS}=0V	---	---	1	uA
I_{GSS}	Gate-Source Leakage Current	V_{GS}= ±30V , V_{DS}=0V	---	---	±100	nA
gfs	Forward Transconductance	V_{DS}=15V , I_D =13A	---	30	---	S
R_g	Gate Resistance	V_{DS}=0V , V_{GS}=0V , f=1MHz	---	1.0	---	Ω
Q_g	Total Gate Charge	V_{DD} =400V , I_D=26A V_{GS}=10V (Note 2)	---	82	---	nC
Q_{gs}	Gate-Source Charge		---	23	---	
Q_{gd}	Gate-Drain Charge		---	34	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DS}=250V , I_D =26A R_G =25Ω (Note 2)	---	47	---	ns
T_r	Rise Time		---	70	---	
$T_{d(off)}$	Turn-Off Delay Time		---	200	---	
T_f	Fall Time		---	70	---	
C_{iss}	Input Capacitance	V_{DS}=25V , V_{GS}=0V , f=1MHz	---	3200	---	pF
C_{oss}	Output Capacitance		---	360	---	
C_{rss}	Reverse Transfer Capacitance		---	30	---	

Diode Characteristics

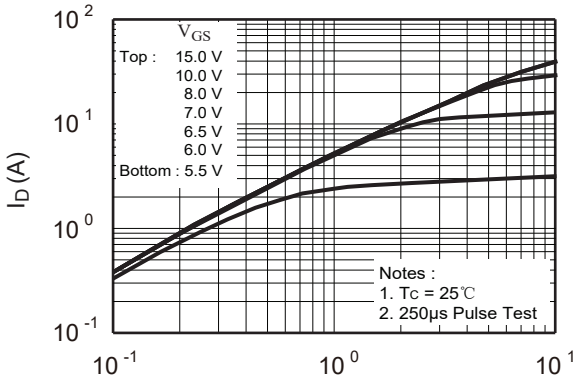
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	V_G=V_D=0V , Force Current	---	---	26	A
I_{SM}	Pulsed Source Current		---	---	104	A
V_{SD}	Diode Forward Voltage	V_{GS}=0V , I_S=26A ,T_J=25℃	---	0.83	1.4	V
t_{rr}	Reverse Recovery Time	di/dt = 100A/μs T_J=25℃ , I_f =26A	---	530	---	ns
Q_{rr}	Reverse Recovery Charge		---	8.2	---	μC

Note :

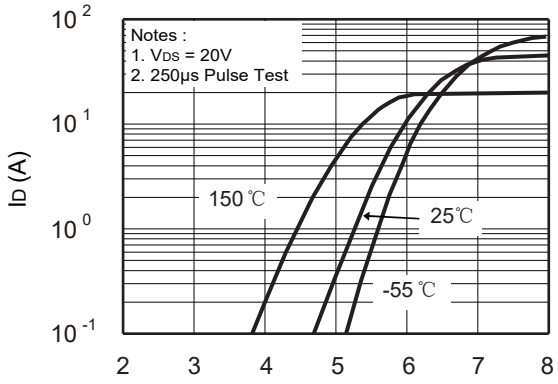
1. The EAS data shows Max. rating .The test condition is V_{DS}=80V , V_{GS}=10V , L=5mH , I_{AS}=30A.
2. Pulse Test : Pulse width ≤ 300μs, Duty cycle ≤ 2%.

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Cmos assumes no liability for customers' product design or applications.
Cmos reserver the right to improve product design ,functions and reliability wihtout notice.Please refer to the latest version of specification.

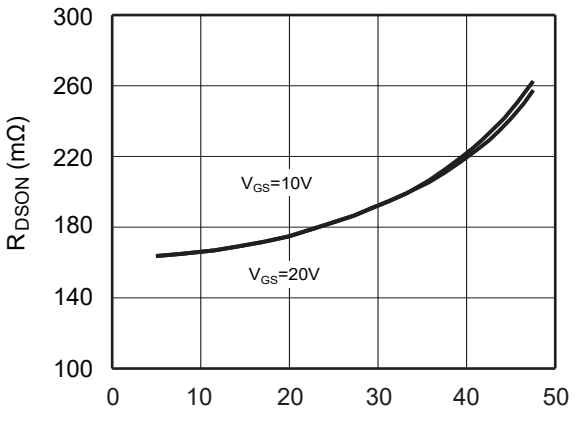
Typical Characteristics



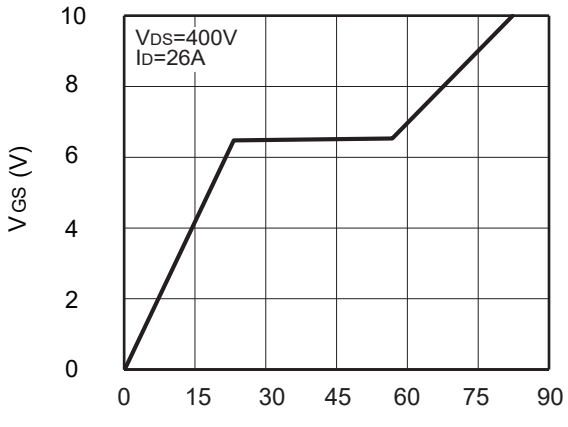
Output Characteristics



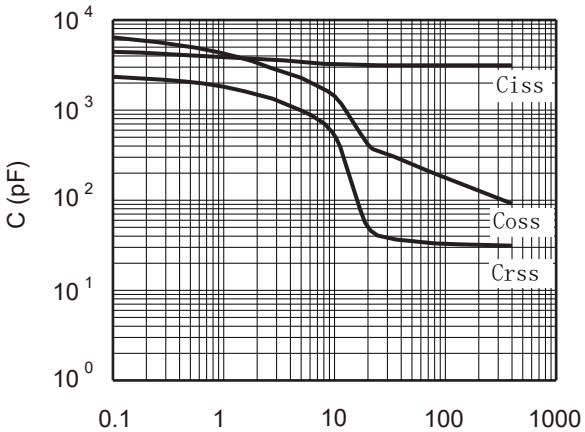
transfer characteristics



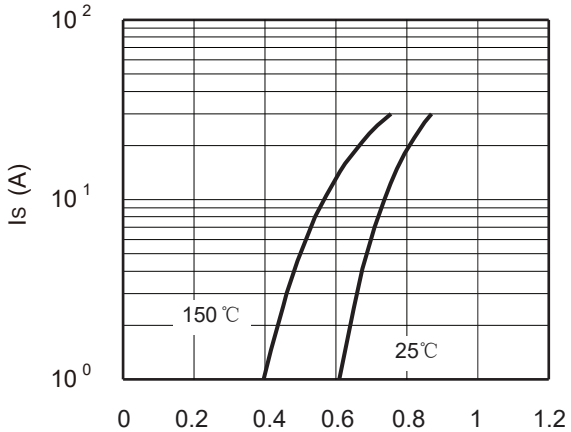
On-Resistance vs. Drain Current



Gate charge vs gate-source voltage



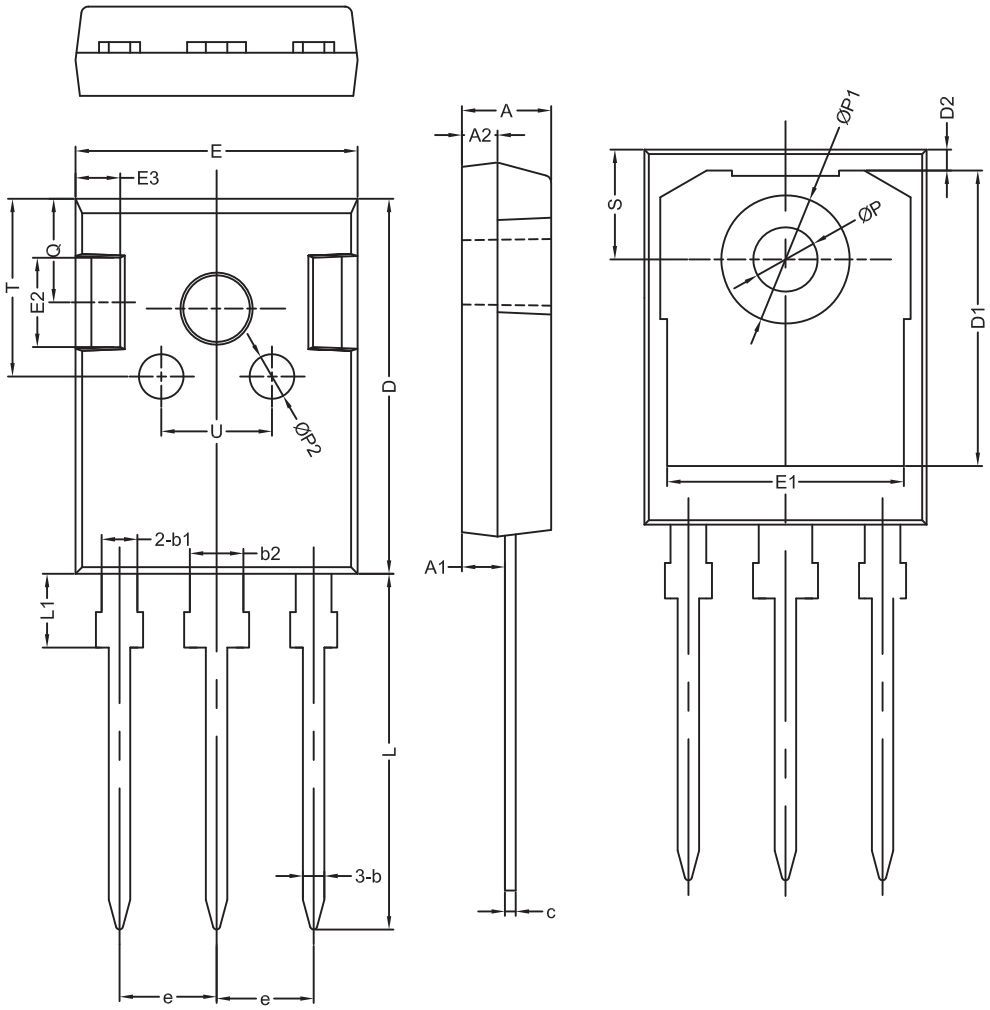
Capacitance Characteristics



Body-Diode Characteristics

Package Dimension

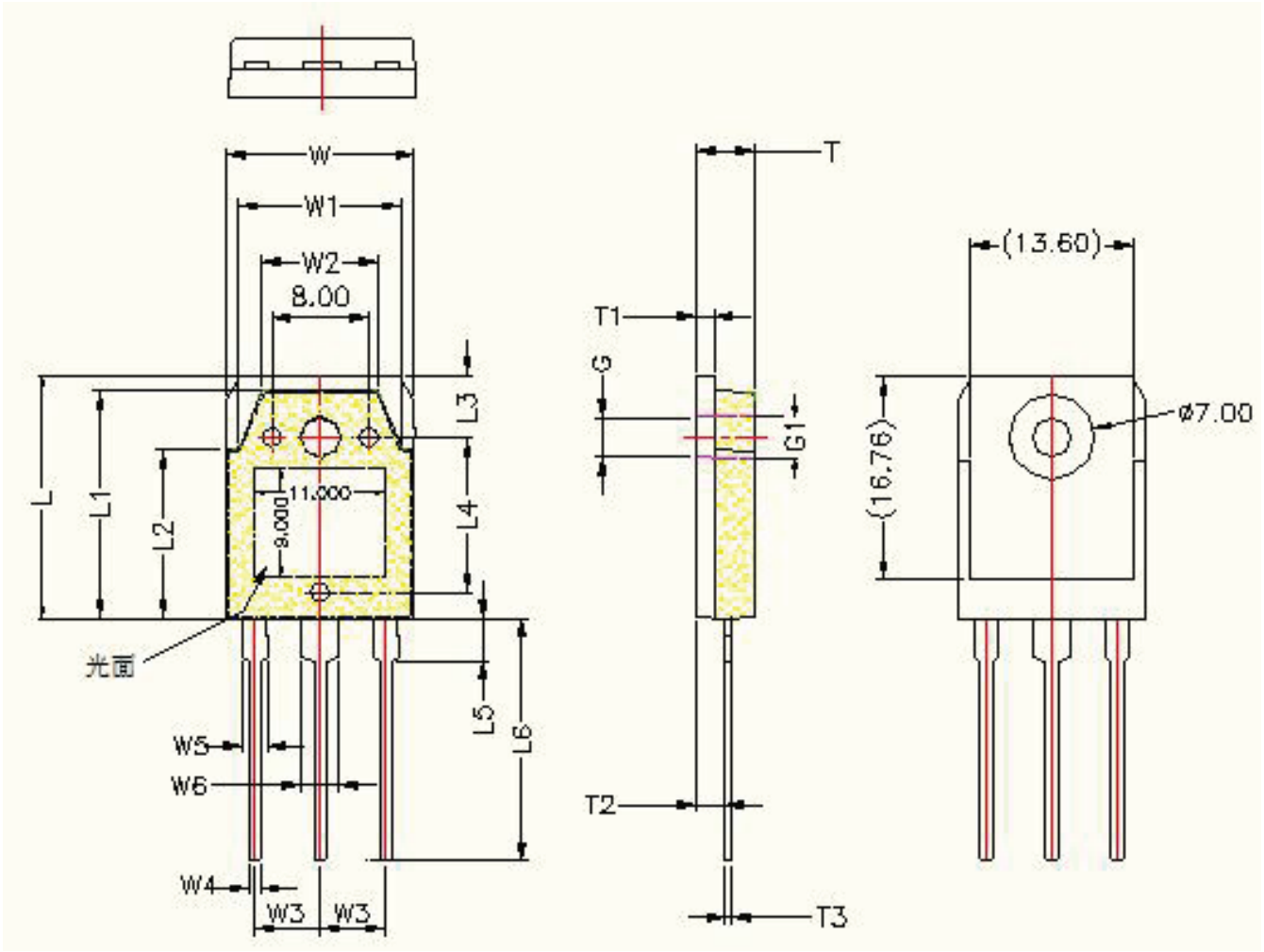
TO-247 Unit :mm



符号	机械尺寸/mm			符号	机械尺寸/mm		
	最小值	典型值	最大值		最小值	典型值	最大值
A	4.80	5.00	5.20	E2		5.00	
A1	2.21	2.41	2.61	E3		2.50	
A2	1.90	2.00	2.10	e		5.44	
b	1.10	1.20	1.35	L	19.42	19.92	20.42
b1		2.00		L1		4.13	
b2		3.00		P	3.50	3.60	3.70
c	0.55	0.60	0.75	P1		7.19	
D	20.80	21.00	21.20	P2		2.50	
D1		16.55		Q		5.80	
D2		1.20		S	6.05	6.15	6.25
E	15.60	15.80	16.0	T		10.00	
E1		13.30		U		6.20	

Package Dimension

TO-3P Unit :mm



Symbol	Dimensions	Symbol	Dimensions	Symbol	Dimensions
W	15.60±0.3	L	19.90±0.3	T	4.80±0.3
W1	13.60±0.3	L1	18.70±0.3	T1	1.50±0.3
W2	9.60±0.3	L2	13.90±0.3	T2	2.40±0.3
W3	5.45(TYP)	L3	5.00±0.3	T3	0.60±0.3
W4	1.00±0.3	L4	12.76±0.3	G	Ø3.25±0.3
W5	2.10±0.2	L5	3.50±0.3	G1	Ø3.58±0.3
W6	3.10±0.2	L6	20.00±0.3		