

General Description

This Power MOSFET is produced using Cmos's advanced planar stripe DMOS technology. This advanced technology has been especially tailored to minimize on-state resistance, provide superior switching performance, and withstand high energy pulse in the avalanche and commutation mode. These devices are well suited for high efficiency switched mode power supplies, active power factor correction based on half bridge topology.

Features

- 100% avalanche tested
- Fast Switching
- RoHS Compliant

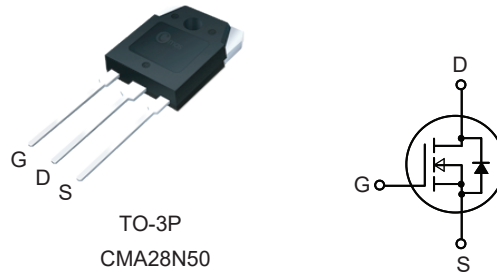
Product Summary

BVDSS	RDSON	ID
500V	0.17Ω	28A

Applications

- DC-DC converters
- Switching regulators
- UPS (Uninterruptible Power Supply)

TO-3P Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	500	V
V_{GS}	Gate-Source Voltage	±30	V
$I_D@T_C=25^\circ C$	Continuous Drain Current	28	A
$I_D@T_C=100^\circ C$	Continuous Drain Current	17	A
I_{DM}	Pulsed Drain Current ¹	112	A
EAS	Single Pulse Avalanche Energy	3240	mJ
$P_D@T_C=25^\circ C$	Total Power Dissipation	290	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
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	40	°C/W
$R_{\theta JC}$	Thermal Resistance Junction-case	---	0.43	°C/W

Electrical Characteristics (T_J=25°C , unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V , I _D =250uA	500	---	---	V
ΔBV _{DSS} /ΔT _J	BVDSS Temperature Coefficient	Reference to 25°C , I _D =250uA	---	0.7	---	V/°C
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V , I _D =15A	---	0.156	0.17	Ω
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250uA	2	---	4	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =500V , V _{GS} =0V	---	---	1	uA
		V _{DS} =400V , V _{GS} =0V , TC=125°C	---	---	10	
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±30V , V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance ³	V _{DS} =10V , I _D =15A	---	32	---	S
Q _g	Total Gate Charge	I _D =24A V _{DS} =400V V _{GS} = 10V (Note 2, 3)	---	90	---	nC
Q _{gs}	Gate-Source Charge		---	22	---	
Q _{gd}	Gate-Drain Charge		---	45	---	
T _{d(on)}	Turn-On Delay Time	V _{DS} =250V I _D =24A R _G =25Ω (Note 2, 3)	---	100	---	ns
T _r	Rise Time		---	250	---	
T _{d(off)}	Turn-Off Delay Time		---	200	---	
T _f	Fall Time		---	150	---	
C _{iss}	Input Capacitance	V _{DS} =25V , V _{GS} =0V , f=1MHz	---	6200	---	pF
C _{oss}	Output Capacitance		---	450	---	
C _{rss}	Reverse Transfer Capacitance		---	170	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Continuous Source Current	V _G =V _D =0V , Force Current	---	---	28	A
I _{SM}	Pulsed Source Current		---	---	112	A
V _{SD}	Diode Forward Voltage	V _{GS} =0V , I _S =15 A , T _J =25°C	---	0.81	1.4	V

Note :

- 1.The EAS data shows Max. rating . The test condition is V_{DD}=100V , V_{GS}=10V , L=20mH , I_{AS}=18A.
2. Pulse Test: Pulse width ≤ 300us, Duty Cycle ≤ 2%.
3. Essentially Independent of Operating Temperature Typical Characteristics.

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Cmos reserver the right to improve product design ,functions and reliability wihout notice.

Typical Characteristics

