

General Description

The 012N10 uses advanced technology and design to provide excellent RDS(ON) .

This device is suitable for PWM, load switching and general purpose applications.

Features

- Low On-Resistance
- 100% avalanche tested
- RoHS Compliant

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	100	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D@T_C=25^\circ C$	Continuous Drain Current	60	A
$I_D@T_C=100^\circ C$	Continuous Drain Current	41	A
I_{DM}	Pulsed Drain Current	240	A
EAS	Single Pulse Avalanche Energy ¹	60	mJ
P_D	Total Power Dissipation	30	W
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ C$
T_J	Operating Junction Temperature Range	-55 to 150	$^\circ C$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient (PCB mount) ²	---	50	$^\circ C/W$
$R_{\theta JC}$	Thermal Resistance Junction -Case	---	4.15	$^\circ C/W$

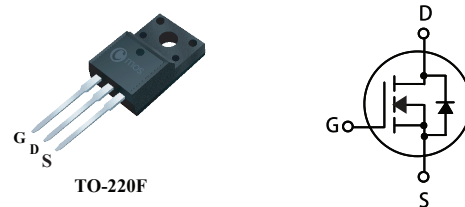
Product Summary

BVDSS	RDSON	ID
100V	10m Ω	60A

Applications

- DC/DC Converter
- Ideal for high-frequency switching and synchronous rectification

TO-220F Pin Configuration



Type	Package	Marking
CMF012N10	TO-220F	CMF012N10

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	100	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V , I _D =20A	---	8.7	10	mΩ
		V _{GS} =4.5V, I _D =10A	---	11	13	
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250uA	1	---	3	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} = 100V, V _{GS} =0V	---	---	1	uA
		V _{DS} = 100V, V _{GS} =0V , T _J =55°C	---	---	5	
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±20V , V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =10V, I _D =10A	---	20	---	S
R _g	Gate Resistance	V _{DS} =0V , V _{GS} =0V , f=1MHz	---	1	---	Ω
Q _g	Total Gate Charge	V _{DS} =50V , V _{GS} =10V , I _D =20A	---	35	---	nC
Q _{gs}	Gate-Source Charge		---	11	---	
Q _{gd}	Gate-Drain Charge		---	6	---	
T _{d(on)}	Turn-On Delay Time	V _{DS} =50V , V _{GS} =10V , R _L =2Ω R _{GEN} =3Ω	---	13	---	ns
T _r	Rise Time		---	8.6	---	
T _{d(off)}	Turn-Off Delay Time		---	30	---	
T _f	Fall Time		---	4	---	
C _{iss}	Input Capacitance	V _{DS} =25V , V _{GS} =0V , f=1MHz	---	1700	---	pF
C _{oss}	Output Capacitance		---	950	---	
C _{rss}	Reverse Transfer Capacitance		---	100	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Continuous Source Current	V _G =V _D =0V , Force Current	---	---	60	A
I _{SM}	Pulsed Source Current		---	---	240	A
V _{SD}	Diode Forward Voltage	V _{GS} =0V , I _S =10A	---	0.81	1.2	V

Note :

- 1.The EAS data shows Max. rating .The test condition is V_{DS}=50V , V_{GS}=10V , L=1mH , I_{AS}=11A.
- 2.Surface mounted on 1 in² copper pad of FR4 board

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