

General Description

The CMF75NF75 uses advanced trench technology and design to provide excellent RDS(ON). It can be used in a wide variety of applications.

Features

- Fast switching
- 100% avalanche tested
- 175°C Operating Temperature
- RoHS Compliant

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	70	V
V_{GS}	Gate-Source Voltage	± 25	V
$I_D@T_C=25^\circ C$	Continuous Drain Current	75	A
$I_D@T_C=100^\circ C$	Continuous Drain Current	60	A
I_{DM}	Pulsed Drain Current	225	A
EAS	Single Pulse Avalanche Energy	320	mJ
$P_D@T_C=25^\circ C$	Total Power Dissipation	60	W
T_{STG}	Storage Temperature Range	-55 to 175	$^\circ C$
T_J	Operating Junction Temperature Range	-55 to 175	$^\circ C$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	62.5	$^\circ C/W$
$R_{\theta JC}$	Thermal Resistance Junction-case	---	2.6	$^\circ C/W$

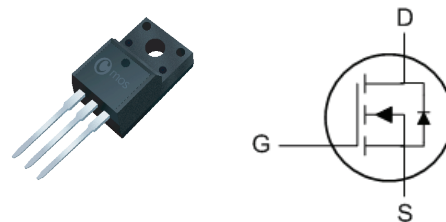
Product Summary

BVDSS	RDSON	ID
70V	9.5m Ω	75A

Applications

- LED power controller
- DC-DC & DC-AC converters
- High current, high speed switching
- Solenoid and relay drivers
- Motor control, Audio amplifiers

TO-220 Pin Configuration



TO-220F

Type	Package	Marking
CMF75NF75	TO-220F	CMF75NF75

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	70	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V , I _D =40A	---	---	9.5	mΩ
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250uA	2	---	4	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =60V , V _{GS} =0V	---	---	1	uA
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±25V , V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =10V , I _D =40A	---	20	---	S
R _g	Gate Resistance	V _{DS} =0V , V _{GS} =0V , f=1MHz	---	2.5	---	Ω
Q _g	Total Gate Charge	I _D =30A	---	95	---	nC
Q _{gs}	Gate-Source Charge	V _{DS} =30V	---	18	---	
Q _{gd}	Gate-Drain Charge	V _{GS} =10V	---	14	---	
T _{d(on)}	Turn-On Delay Time	V _{DS} =30V	---	19	---	ns
T _r	Rise Time	R _L =1Ω	---	39	---	
T _{d(off)}	Turn-Off Delay Time	R _G =3Ω	---	58	---	
T _f	Fall Time	V _{GS} =10V	---	9	---	
C _{iss}	Input Capacitance	V _{DS} =25V , V _{GS} =0V , f=1MHz	---	3600	---	pF
C _{oss}	Output Capacitance		---	679	---	
C _{rss}	Reverse Transfer Capacitance		---	54	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Continuous Source Current	V _G =V _D =0V , Force Current	---	---	75	A
I _{SM}	Pulsed Source Current		---	---	225	A
V _{SD}	Diode Forward Voltage	V _{GS} =0V , I _S =45A , T _J =25°C	---	---	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.