

General Description

The 18N60 have been fabricated using an advanced high voltage MOSFET process that is designed to deliver high levels of performance and robustness in popular AC-DC applications. These parts can be adopted quickly into new and existing offline power supply designs.

Features

- Fast switching
- 100% avalanche tested
- RoHS Compliant

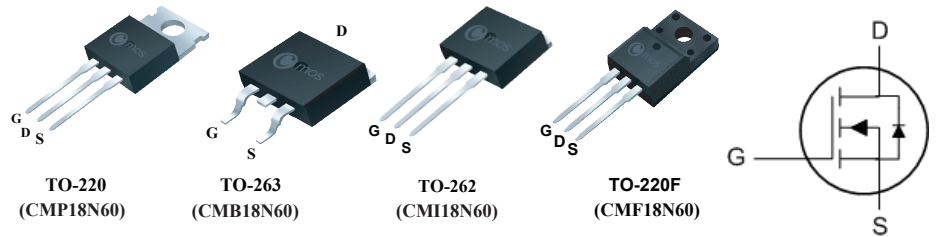
Product Summary

BVDSS	RDSON	ID
600V	0.45Ω	18A

Applications

- Charger
- Adaptor
- Power Supply

TO-220/263/262/220F Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	220/263/262	220F	Units
V_{DS}	Drain-Source Voltage	600		V
V_{GS}	Gate-Source Voltage	±30		V
$I_D@T_C=25^\circ C$	Continuous Drain Current	18	18*	A
$I_D@T_C=100^\circ C$	Continuous Drain Current	11.4	11.4*	A
I_{DM}	Pulsed Drain Current (Note 1)	72	72*	A
EAS	Single Pulse Avalanche Energy (Note 2)	810		mJ
$P_D@T_C=25^\circ C$	Total Power Dissipation	300	40	W
T_{STG}	Storage Temperature Range	-55 to 150		°C
T_J	Operating Junction Temperature Range	-55 to 150		°C

* Drain current limited by maximum junction temperature.

Thermal Data

Symbol	Parameter	220/263/262	220F	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient (Note 3,4)	65	62.5	°C/W
$R_{\theta JC}$	Thermal Resistance Junction-case	0.3	3.13	°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	600	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V , I _D =8A	---	---	0.45	Ω
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250uA	3	---	5	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =600V , V _{GS} =0V	---	---	1	uA
		V _{DS} =600V , T _C =125°C	---	---	100	
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±30V , V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =10V , I _D =15A	---	30	---	S
R _g	Gate Resistance	V _{DS} =0V , V _{GS} =0V , f=1MHz	---	2.5	---	Ω
Q _g	Total Gate Charge	I _D =18A	---	55	---	nC
Q _{gs}	Gate-Source Charge	V _{DS} =480V	---	22	---	
Q _{gd}	Gate-Drain Charge	V _{GS} =10V	---	13	---	
T _{d(on)}	Turn-On Delay Time	V _{DS} =300V I _D =18A R _G =25Ω	---	200	---	ns
T _r	Rise Time		---	150	---	
T _{d(off)}	Turn-Off Delay Time		---	460	---	
T _f	Fall Time		---	80	---	
C _{iss}	Input Capacitance	V _{DS} =25V , V _{GS} =0V , f=1MHz	---	3900	---	pF
C _{oss}	Output Capacitance		---	260	---	
C _{riss}	Reverse Transfer Capacitance		---	24	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Continuous Source Current	V _G =V _D =0V , Force Current	---	---	18	A
I _{SM}	Pulsed Source Current		---	---	72	A
V _{SD}	Diode Forward Voltage	V _{GS} =0V , I _S =16A	---	---	1.2	V

Notes:

1. Repetitive Rating : Pulse width limited by maximum junction temperature.
2. L=5mH, I_D=18A, V_{DD}=50V, R_G=25Ω, Starting T_J=25°C.
3. The value of R_{θJA} is measured with the device in a still air environment with T_A=25°C.
4. The R_{θJA} is the sum of the thermal impedance from junction to case R_{θJC} and case to ambient.

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