

### General Description

These N-Channel enhancement mode power field effect transistors are produced using Cmos's proprietary, planar stripe, DMOS technology. This advanced technology has been especially tailored to minimize on-state resistance.

These devices are well suited for high efficiency switching DC/DC converters, switch mode power supplies, DC-AC converters for uninterrupted power supplies and motor controls.

### Features

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

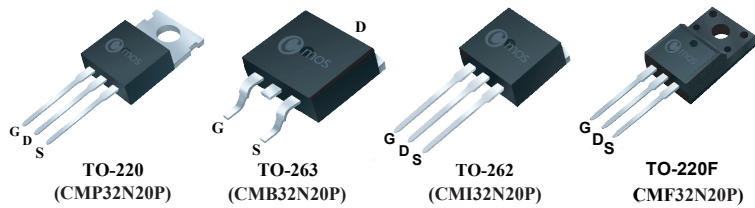
### Product Summary

BVDSS	RDSON	ID
200V	75mΩ	32A

### Applications

- UPS
- Inverter
- Lighting

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



### Absolute Maximum Ratings

Symbol	Parameter	220/263/262	220F	Units
$V_{DS}$	Drain-Source Voltage	200		V
$V_{GS}$	Gate-Source Voltage	±20		V
$I_D@T_C=25^\circ C$	Continuous Drain Current	32	32*	A
$I_D@T_C=100^\circ C$	Continuous Drain Current	22	22*	A
$I_{DM}$	Pulsed Drain Current <sup>1</sup>	128	128*	A
EAS	Single Pulse Avalanche Energy <sup>2</sup>	1380		mJ
$P_D@T_C=25^\circ C$	Total Power Dissipation	160	50	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	62.5	62.5	°C/W
$R_{\theta JC}$	Thermal Resistance Junction-case	0.8	2.51	°C/W

**Electrical Characteristics (T<sub>J</sub>=25°C , unless otherwise noted)**

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> =0V , I <sub>D</sub> =250uA	200	---	---	V
R <sub>DS(ON)</sub>	Static Drain-Source On-Resistance	V <sub>GS</sub> =10V , I <sub>D</sub> =20A	---	67	75	mΩ
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>GS</sub> =V <sub>DS</sub> , I <sub>D</sub> =250uA	2	---	4	V
I <sub>DSS</sub>	Drain-Source Leakage Current	V <sub>DS</sub> =200V , V <sub>GS</sub> =0V	---	---	1	uA
		V <sub>DS</sub> =160V , V <sub>GS</sub> =0V , T <sub>C</sub> =125°C	---	---	100	
I <sub>GSS</sub>	Gate-Source Leakage Current	V <sub>GS</sub> = ±20V , V <sub>DS</sub> =0V	---	---	±100	nA
g <sub>fs</sub>	Forward Transconductance	V <sub>DS</sub> =10V , I <sub>D</sub> =32A	---	30	---	S
R <sub>g</sub>	Gate Resistance	V <sub>DS</sub> =0V , V <sub>GS</sub> =0V , f=1MHz	---	1	---	Ω
Q <sub>g</sub>	Total Gate Charge	I <sub>D</sub> =32 A	---	83	---	nC
Q <sub>gs</sub>	Gate-Source Charge	V <sub>DD</sub> = 160 V	---	11	---	
Q <sub>gd</sub>	Gate-Drain Charge	V <sub>GS</sub> = 10 V	---	45	---	
T <sub>d(on)</sub>	Turn-On Delay Time	V <sub>DD</sub> = 100 V I <sub>D</sub> =32A R <sub>G</sub> =25Ω	---	25	---	ns
T <sub>r</sub>	Rise Time		---	270	---	
T <sub>d(off)</sub>	Turn-Off Delay Time		---	245	---	
T <sub>f</sub>	Fall Time		---	210	---	
C <sub>iss</sub>	Input Capacitance	V <sub>DS</sub> =25V , V <sub>GS</sub> =0V , f=1MHz	---	2400	---	pF
C <sub>oss</sub>	Output Capacitance		---	300	---	
C <sub>riss</sub>	Reverse Transfer Capacitance		---	40	---	

**Diode Characteristics**

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I <sub>S</sub>	Continuous Source Current	V <sub>G</sub> =V <sub>D</sub> =0V , Force Current	---	---	32	A
I <sub>SM</sub>	Pulsed Source Current		---	---	128	A
V <sub>SD</sub>	Diode Forward Voltage	V <sub>GS</sub> =0V , I <sub>S</sub> =32 A , T <sub>J</sub> =25°C	---	---	1.5	V

Note :

- 1.Repetitive rating; pulse width limited by maximum junction temperature
- 2.The EAS data shows Max. rating . The test condition is V<sub>DD</sub>=50V,V<sub>GS</sub>=10V,L=5.0mH,I<sub>AS</sub>=23.5A

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