

### General Description

The 150N85 is a N-channel Power MOSFET. It has specifically been designed to minimize input capacitance and gate charge. The device is therefore suitable in advanced high-efficiency switching applications.

### Features

- Advanced Process Technology
- Ultra Low On-Resistance
- Dynamic dv/dt Rating
- 175°C Operating Temperature
- Fast Switching
- Fully Avalanche Rated
- Lead-Free

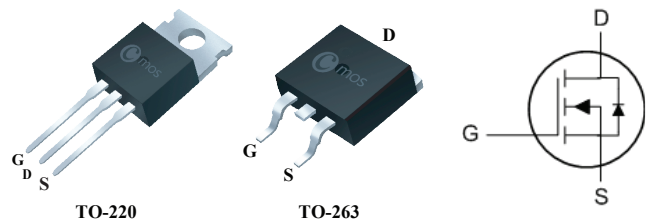
### Product Summary

BVDSS	RDSON	ID
85V	6.7mΩ	150A

### Applications

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

### TO-220/263 Pin Configuration



Type	Package	Marking
CMP150N85	TO-220	CMP150N85
CMB150N85	TO-263	CMB150N85

### Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
$V_{DS}$	Drain-Source Voltage	85	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D@T_C=25^\circ C$	Continuous Drain Current, $V_{GS} @ 10V$	150	A
$I_D@T_C=100^\circ C$	Continuous Drain Current, $V_{GS} @ 10V$	120	A
$I_{DM}$	Pulsed Drain Current	450	A
EAS	Single Pulse Avalanche Energy	800	mJ
$P_D@T_C=25^\circ C$	Power Dissipation	300	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
$R_{\theta JA}$	Junction-to-Ambient (PCB mount)	---	65	$^\circ C/W$
$R_{\theta JC}$	Junction-to-Case	---	0.45	$^\circ C/W$

### Electrical Characteristics ( $T_J=25\text{ }^\circ\text{C}$ , unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	85	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V, I_D=20A$	---	---	6.7	m $\Omega$
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}, I_D=250\mu A$	2	---	4	V
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=85V, V_{GS}=0V$	---	---	1	$\mu A$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	---	---	$\pm 100$	nA
$g_{fs}$	Forward Transconductance	$V_{DS}=10V, I_D=20A$	---	23	---	S
$R_g$	Gate Resistance	$V_{DS}=0V, V_{GS}=0V, f=1MHz$	---	2.0	---	$\Omega$
$Q_g$	Total Gate Charge	$I_D=20A$	---	106	---	nC
$Q_{gs}$	Gate-Source Charge	$V_{DD}=50V$	---	28	---	
$Q_{gd}$	Gate-Drain Charge	$V_{GS}=10V$	---	41	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=50V$	---	27	---	ns
$T_r$	Rise Time	$R_L=2.5\Omega$	---	21	---	
$T_{d(off)}$	Turn-Off Delay Time	$R_G=3\Omega$	---	43	---	
$T_f$	Fall Time	$V_{GS}=10V$	---	14	---	
$C_{iss}$	Input Capacitance	$V_{DS}=50V, V_{GS}=0V, f=1MHz$	---	3500	---	pF
$C_{oss}$	Output Capacitance		---	400	---	
$C_{rss}$	Reverse Transfer Capacitance		---	130	---	

### Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$I_S$	Continuous Source Current	$V_G=V_D=0V$ , Force Current	---	---	150	A
$I_{SM}$	Pulsed Source Current		---	---	450	A
$V_{SD}$	Diode Forward Voltage	$V_{GS}=0V, I_S=20A, T_J=25^\circ\text{C}$	---	---	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.  
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