

General Description

The 95N15 uses advanced trench technology and design to provide excellent RDS(ON) with low gate charge. The result is outstanding efficiency with controlled switching behavior. This universal technology is well suited for PWM, load switching and general purpose applications.

Features

- Advanced Process Technology
- Ultra Low On-Resistance
- Fast Switching
- Fully Avalanche Rated
- Lead-Free

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	150	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D@T_C=25^\circ\text{C}$	Continuous Drain Current	95	A
$I_D@T_C=100^\circ\text{C}$	Continuous Drain Current	70	A
I_{DM}	Pulsed Drain Current ¹	380	A
EAS	Single Pulse Avalanche Energy ²	1624	mJ
$P_D@T_C=25^\circ\text{C}$	Total Power Dissipation	315	W
T_{STG}	Storage Temperature Range	-55 to 175	$^\circ\text{C}$
T_J	Operating Junction Temperature Range	-55 to 175	$^\circ\text{C}$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JC}$	Thermal Resistance Junction-case (Steady-State)	---	0.75	$^\circ\text{C/W}$

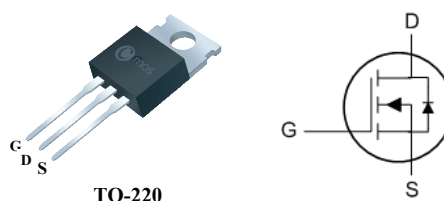
Product Summary

BVDSS	RDS(ON)	ID
150V	14m Ω	95A

Applications

- Uninterruptible Power Supply
- Hard Switched and High Frequency Circuits

TO-220 Pin Configuration



Type	Package	Marking
CMP95N15	TO-220	CMP95N15

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=250\mu A$	150	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V$, $I_D=3A$	---	---	14	$m\Omega$
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$, $I_D=250\mu A$	3	---	5	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=120V$, $V_{GS}=0V$	---	---	1	μA
		$V_{DS}=120V$, $V_{GS}=0V$, $T_J=125^\circ\text{C}$	---	---	10	
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$, $V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=10V$, $I_D=3A$	---	13	---	S
R_g	Gate Resistance	$V_{DS}=0V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	5	---	Ω
Q_g	Total Gate Charge	$I_D=35A$	---	35	---	nC
Q_{gs}	Gate-Source Charge	$V_{DS}=75V$	---	12	---	
Q_{gd}	Gate-Drain Charge	$V_{GS}=10V$	---	10	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=75V$, $I_D=35A$ $R_G=3\Omega$, $V_{GS}=10V$	---	13	---	ns
T_r	Rise Time		---	4	---	
$T_{d(off)}$	Turn-Off Delay Time		---	15	---	
T_f	Fall Time		---	5	---	
C_{iss}	Input Capacitance	$V_{DS}=25V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	6500	---	pF
C_{oss}	Output Capacitance		---	600	---	
C_{rss}	Reverse Transfer Capacitance		---	400	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	$V_G=V_D=0V$, Force Current	---	---	95	A
I_{SM}	Pulsed Source Current		---	---	380	A
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_S=1A$, $T_J=25^\circ\text{C}$	---	---	1	V

Note :

1.Repetitive rating; pulse width limited by maximum junction temperature

2.EAS condition: $T_J=25^\circ\text{C}$, $V_{DD}=50V$, $V_{GS}=10V$, $L=1mH$, $I_{AS}=57A$.

This product has been designed and qualified for the consumer market.

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Cmos reserves the right to improve product design, functions and reliability without notice.