CMSA150N03L

N-Channel Enhancement Mode Field Effect Transistor

General Description

The CMSA150N03L uses advanced technology to provide excellent RDS (ON) . This device is suitable to be used as the low side FET in SMPS,load switching and general purpose.

Features

- Fast switching speed
- Lower On-resistance
- 100% EAS Guaranteed
- Simple Drive Requirement

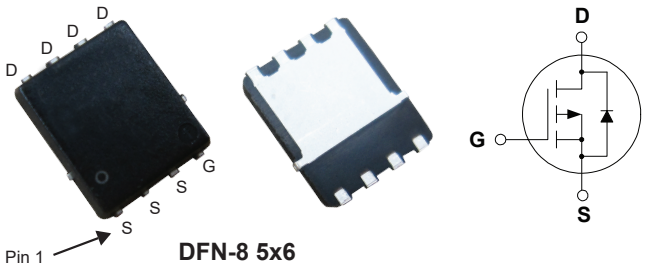
Product Summary

BVDSS	RDSON	ID
30V	3.3mΩ	120A

Applications

- Load Switch
- Power Management in Notebook Computer,Portable Equipment and Battery Powered Systems.

DFN-8 5x6 Pin Configuration



DFN-8 5x6

Type	Package	Marking
CMSA150N03L	DFN-8 5*6	CMSA150N03L

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-Source Voltage	±20	V
I_D@T_C=25℃	Continuous Drain Current	120	A
I_D@T_C=100℃	Continuous Drain Current	96	A
I_{DM}	Pulsed Drain Current	360	A
EAS	Single Pulse Avalanche Energy [1]	260	mJ
P_D@T_C=25℃	Total Power Dissipation	50	W
T_{STG}	Storage Temperature Range	-55 to 150	℃
T_J	Operating Junction Temperature Range	-55 to 150	℃

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Junction-to-Ambient	---	50	℃/W
$R_{\theta JC}$	Junction-to-Case	---	1.6	℃/W

Electrical Characteristics (T_J=25℃ , unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V , I_D=250uA	30	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=10V , I_D=20A	---	---	3.3	mΩ
		V_{GS}=4.5V , I_D=15A	---	---	7.5	
$V_{GS(th)}$	Gate Threshold Voltage	V_{GS}=V_{DS} , I_D =250uA	1	---	3	V
I_{DSS}	Drain-Source Leakage Current	V_{DS}=30V , V_{GS}=0V , T_J=25℃	---	---	1	uA
I_{GSS}	Gate-Source Leakage Current	V_{GS}= ±20V , V_{DS}=0V	---	---	±100	nA
gfs	Forward Transconductance	V_{DS}=5V , I_D=15A	---	23	---	S
R_g	Gate Resistance	V_{DS}=0V , V_{GS}=0V , f=1MHz	---	2.5	---	Ω
Q_g	Total Gate Charge	V_{DD}=15V, I_D=23A V_{GS}=10V	---	40	---	nC
Q_{gs}	Gate-Source Charge		---	8	---	
Q_{gd}	Gate-Drain Charge		---	5	---	
$T_{d(on)}$	Turn-On Delay Time	V_{DD}=15V, R_G=6Ω I_D=23A , V_{GEN}=10V	---	15	---	ns
T_r	Rise Time		---	6	---	
$T_{d(off)}$	Turn-Off Delay Time		---	33	---	
T_f	Fall Time		---	5	---	
C_{iss}	Input Capacitance	V_{DS}=15V , V_{GS}=0V , f=1MHz	---	2800	---	pF
C_{oss}	Output Capacitance		---	1500	---	
C_{rss}	Reverse Transfer Capacitance		---	340	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	V_G=V_D=0V , Force Current	---	---	120	A
I_{SM}	Pulsed Source Current		---	---	360	A
V_{SD}	Diode Forward Voltage	V_{GS}=0V , I_F=15A	---	---	1.2	V

Note :

1.The test condition is V_{DD}=25V , V_{GS}=10V , L=0.5mH , I_{AS}=32.5A