CHENMKO ENTERPRISE CO.,LTD

Halogens free devices

CHM30N15LNGP

SURFACE MOUNT
N-Channel Enhancement Mode Field Effect Transistor

VOLTAGE 150 Volts CURRENT 28 Ampere

APPLICATION

* Servo motor control.
* Power MOSFET gate drivers.
* Other switching applications.

FEATURE

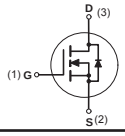
* Small package. (D2PAK)
* Super high dense cell design for extremely low $R_{DS(ON)}$.
* High power and current handing capability.

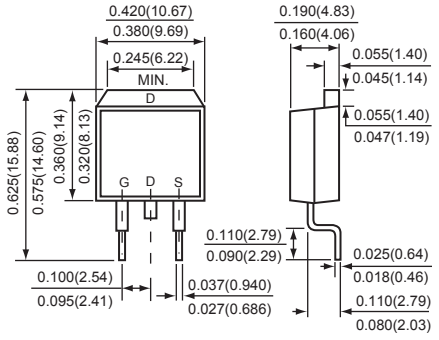
CONSTRUCTION

* N-Channel Enhancement

D2PAK

CIRCUIT





Dimensions in inches and (millimeters)

D2PAK

Absolute Maximum Ratings T_A = 25°C unless otherwise noted

Symbol	Parameter	CHM30N15LNGP	Units
V_{DSS}	Drain-Source Voltage	150	V
V_{GSS}	Gate-Source Voltage	±12	V
I_D	Maximum Drain Current - Continuous	28	A
	- Pulsed (Note 3)	112	
P_D	Maximum Power Dissipation at Tc = 25°C	56	W
T_J	Operating Temperature Range	-55 to 175	°C
T_{STG}	Storage Temperature Range	-55 to 175	°C

Note : 1. Surface Mounted on FR4 Board , t <=10sec
2. Pulse Test , Pulse width <= 300us , Duty Cycle <= 2%
3. Repetitive Rating , Pulse width linited by maximum junction temperature
4. Guaranteed by design , not subject to production trsting

Thermal characteristics

$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient (Note 1)	62.5	°C/W

RATING CHARACTERISTIC CURVES (CHM30N15LNGP)

Electrical Characteristics T_A = 25°C unless otherwise noted

Symbol	Parameter	Conditions	Min	Typ	Max	Units
OFF CHARACTERISTICS						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS} = 0 V, I_D = 250 μA	150	165		V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = 150 V, V_{GS} = 0 V			1	μA
I_{GSSF}	Gate-Body Leakage	V_{GS} = 12V, V_{DS} = 0 V			+100	nA
I_{GSSR}	Gate-Body Leakage	V_{GS} = -12V, V_{DS} = 0 V			-100	nA
ON CHARACTERISTICS (Note 2)						
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_D = 250 μA	0.5	0.8	1.5	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=4.5V, I_D=12A		55	70	mΩ
g_{FS}	Forward Transconductance	V_{DS} =15V, I_D = 12A		24		S
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS} = 25V, V_{GS} = 0V, f = 1.0 MHz		2480		pF
C_{oss}	Output Capacitance			250		
C_{rss}	Reverse Transfer Capacitance			30		
SWITCHING CHARACTERISTICS (Note 4)						
Q_g	Total Gate Charge	V_{DS}=120V, I_D=20A, V_{GS}=10V		88	115	nC
Q_{gs}	Gate-Source Charge			6		
Q_{gd}	Gate-Drain Charge			16		
t_{on}	Turn-On Time	V_{DD}= 75V, I_D= 20A, V_{GS}= 10 V, R_{GEN}= 1Ω		17.5	23	nS
t_r	Rise Time			10	13	
t_{off}	Turn-Off Time			495	643.5	
t_f	Fall Time			57	74	
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
I_S	Drain-Source Diode Forward Current	(Note 1)			24	A
V_{SD}	Drain-Source Diode Forward Voltage	I_S = 24A, V_{GS} = 0 V (Note 2)			12	V