CHENMKO ENTERPRISE CO.,LTD

Halogens free devices

CHM9424JGP

SURFACE MOUNT
P-Channel Enhancement Mode Field Effect Transistor

VOLTAGE 20 Volts CURRENT 7.7 Ampere

APPLICATION

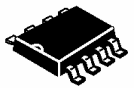
* Servo motor control.
* Power MOSFET gate drivers.
* Other switching applications.

FEATURE

* Small flat package. (SO-8)
* High density cell design for extremely low $R_{DS(ON)}$.
* Rugged and reliable.
* High saturation current capability.

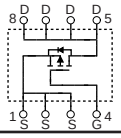
CONSTRUCTION

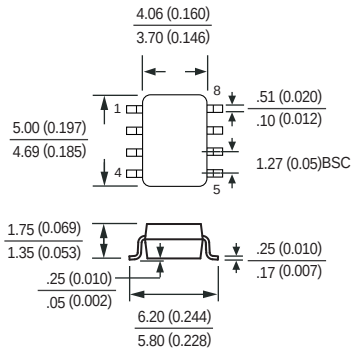
* P-Channel Enhancement



SO-8

CIRCUIT





Dimensions in millimeters

SO-8

Absolute Maximum Ratings

T_A = 25°C unless otherwise noted

Symbol	Parameter	CHM9424JGP	Units
V_{DSS}	Drain-Source Voltage	-20	V
V_{GSS}	Gate-Source Voltage	±8	V
I_D	Maximum Drain Current - Continuous	-7.7	A
	- Pulsed (Note 3)	-30	
P_D	Maximum Power Dissipation	2500	mW
T_J	Operating Temperature Range	-55 to 150	°C
T_{STG}	Storage Temperature Range	-55 to 150	°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)	50	°C/W

ELECTRICAL CHARACTERISTIC (CHM9424JGP)

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	-20			V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = -24 V, V_{GS} = 0 V			-1	µA
I_{GSSF}	Gate-Body Leakage	V_{GS} = 8V, V_{DS} = 0 V			+100	nA
I_{GSSR}	Gate-Body Leakage	V_{GS} = -8V, V_{DS} = 0 V			-100	nA
ON CHARACTERISTICS (Note 2)						
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_D = -250 µA	-0.6		-1	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=-4.5V, I_D=-7.7A		20	25	mΩ
		V_{GS}=-2.5V, I_D=-6.6A		29	35	
g_{FS}	Forward Transconductance	V_{DS} = -10V, I_D = -7.7		23		S
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS} = -10V, V_{GS} = 0V, f = 1.0 MHz		2130		pF
C_{oss}	Output Capacitance			760		
C_{rss}	Reverse Transfer Capacitance			127		
SWITCHING CHARACTERISTICS (Note 4)						
Q_g	Total Gate Charge	V_{DS}=-6V, I_D=-7.7A, V_{GS}=-4.5V		45	54	nC
Q_{gs}	Gate-Source Charge			6		
Q_{gd}	Gate-Drain Charge			14		
t_{on}	Turn-On Time	V_{DD}= -6V, I_D= -1.0A, V_{GS}= -4.5 V, R_{GEN}= 6Ω		60	80	nS
t_r	Rise Time			90	130	
t_{off}	Turn-Off Time			310	400	
t_f	Fall Time			190	250	
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
I_S	Drain-Source Diode Forward Current	(Note 1)			-2.3	A
V_{SD}	Drain-Source Diode Forward Voltage	I_S = -2.3A, V_{GS} = 0 V (Note 2)			-1.2	V