CHENMKO ENTERPRISE CO.,LTD

Halogens free devices

CHM1304WGP

SURFACE MOUNT
N-Channel Enhancement Mode Field Effect Transistor

VOLTAGE 20 Volts CURRENT 2.0 Ampere

APPLICATION

* Power Management in Note book
* Portable Equipment
* Battery Powered System
* DC/DC Converter
* Load Switch
* DSC
* LCD Display inverter

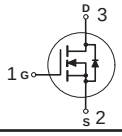
FEATURE

* Small surface mounting type. (SC-70/SOT-323)
* High density cell design for low $R_{DS(ON)}$

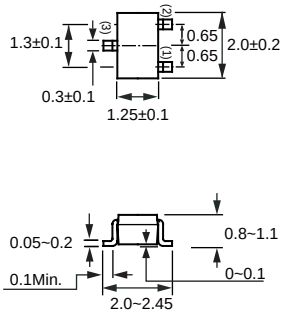
CONSTRUCTION

* N-Channel Enhancement

CIRCUIT



SC-70/SOT-323



Dimensions in millimeters

SC-70/SOT-323

Absolute Maximum Ratings

T_A = 25°C unless otherwise noted

Symbol	Parameter	CHM1304WGP	Units
V_{DSS}	Drain-Source Voltage	20	V
V_{GSS}	Gate-Source Voltage	±12	V
I_D	Maximum Drain Current - Continuous (Note 1)	2.0	A
	- Pulsed (Note 2)	10	
I_S	Drain-Source Diose Forward Current (Note 1)	1.6	A
P_D	Maximum Power Dissipation (Note 1)	1250	mW
T_J,T_{STG}	Operating and 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%

Thermal characteristics

$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	105	°C/W

RATING CHARACTERISTIC CURVES (CHM1304WGP)

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} = 20 V, V_{GS} = 0 V			1	µA
I_{GSS}	Gate-Body Leakage	V_{GS} = 12 V, V_{DS} = 0 V			+100	nA
I_{GSS}	Gate-Body Leakage	V_{GS} = -12 V, V_{DS} = 0 V			-100	nA
ON CHARACTERISTICS (Note 2)						
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_D = 250 µA	0.35		1.0	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=4.5V, I_D=2.0A		150	225	mΩ
		V_{GS}=2.5V, I_D=1.5A		210	315	
V_{SD}	Diose Forward Voltage	V_{DS} = 0V, I_S = 0.5A		0.8	1.2	V
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS} = 10V, V_{GS} = 0V, f = 1.0 MHz		110		pF
C_{oss}	Output Capacitance			34		
C_{rss}	Reverse Transfer Capacitance			16		
SWITCHING CHARACTERISTICS (Note 3)						
Q_g	Total Gate Charge	V_{DS}=10V, I_D=0.7A, V_{GS}=4.5V		1.2	1.5	nC
Q_{gs}	Gate-Source Charge			0.2		
Q_{gd}	Gate-Drain Charge			0.3		
t_{on}	Turn-On Time	V_{DD}= 10V, I_D = 1A, V_{GEN}=4.5 V, R_L= 10 Ω , R_{GEN}= 6 Ω		5	10	nS
t_r	Rise Time			8	15	
t_{off}	Turn-Off Time			10	18	
t_f	Fall Time			1.2	2.8	

Note : 3. Guaranteed by design , not subject to production trsting

RATING CHARACTERISTIC CURVES (CHM1304WGP)

Typical Electrical Characteristics