



CHENMKO ENTERPRISE CO.,LTD

CHM7400WGP

SURFACE MOUNT
N-Channel Enhancement Mode Field Effect Transistor
VOLTAGE 30 Volts CURRENT 2.8 Ampere

Halogens free devices

APPLICATION

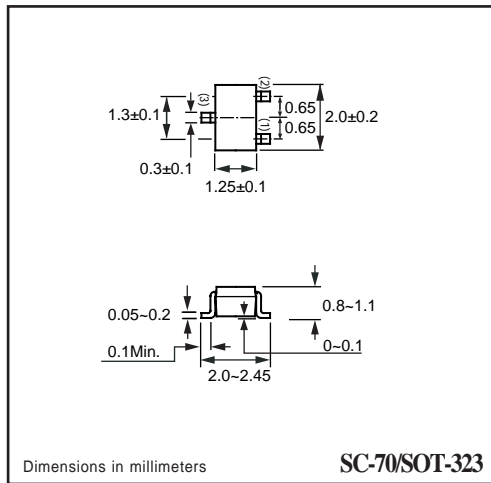
- * Power Management in Note book
- * Portable Equipment
- * Battery Powered System
- * DC/DC Converter
- * Load Switch
- * DSC
- * LCD Display inverter

FEATURE

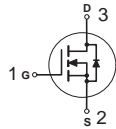
- * Small surface mounting type. (SC-70/SOT-323)
- * High density cell design for low $R_{DS(ON)}$.

CONSTRUCTION

- * N-Channel Enhancement



CIRCUIT



Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	CHM7400WGP	Units
V_{DSS}	Drain-Source Voltage	30	V
V_{GSS}	Gate-Source Voltage	± 12	V
I_D	Maximum Drain Current - Continuous (Note 1)	2.8	A
	- Pulsed (Note 2)	10	
I_S	Drain-Source Diode Forward Current (Note 1)	1.25	A
P_D	Maximum Power Dissipation (Note 1)	330	mW
T_J, T_{STG}	Operating and Storage Temperature Range	-55 to 150	$^\circ\text{C}$

Note : 1. Surface Mounted on FR4 Board , $t \leq 10\text{sec}$
 2. Pulse Test , Pulse width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

Thermal characteristics

$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	100	$^\circ\text{C/W}$
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RATING CHARACTERISTIC CURVES (CHM7400WGP)

Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Conditions	Min	Typ	Max	Units
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OFF CHARACTERISTICS

BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS} = 0\text{ V}, I_D = 250\ \mu\text{A}$	30			V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = 24\text{ V}, V_{GS} = 0\text{ V}$			1	μA
I_{GSS}	Gate-Body Leakage	$V_{GS} = 12\text{ V}, V_{DS} = 0\text{ V}$			+100	nA
I_{GSS}	Gate-Body Leakage	$V_{GS} = -12\text{ V}, V_{DS} = 0\text{ V}$			-100	nA

ON CHARACTERISTICS (Note 2)

$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = 250\ \mu\text{A}$	0.8		1.6	V
$R_{DS(on)}$	Static Drain-Source On-Resistance	$V_{GS}=4.5\text{V}, I_D=2.3\text{A}$		70	85	m Ω
		$V_{GS}=2.5\text{V}, I_D=1.5\text{A}$		95	110	
V_{SD}	Diode Forward Voltage	$V_{GS} = 0\text{V}, I_S = 1.25\text{ A}$		0.82	1.2	V

SWITCHING CHARACTERISTICS (Note 3)

Q_g	Total Gate Charge	$V_{DS}=15\text{V}, I_D=2\text{A}$ $V_{GS}=4.5\text{V}$		4.2	6	nC
Q_{gs}	Gate-Source Charge			0.6		
Q_{gd}	Gate-Drain Charge			1.5		
t_{on}	Turn-On Time	$V_{DD}= 15\text{V}$ $I_D = 1.0\text{A}, V_{GEN} = 4.5\text{ V}$ $R_L = 10\ \Omega, R_{GEN} = 3\ \Omega$		2.5		nS
t_r	Rise Time			2.5		
t_{off}	Turn-Off Time			20		
t_f	Fall Time			4		

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

RATING CHARACTERISTIC CURVES (CHM7400WGP)

Typical Electrical Characteristics

