



CHENMKO ENTERPRISE CO.,LTD

SURFACE MOUNT

N-Channel Enhancement Mode Field Effect Transistor

VOLTAGE 60 Volts CURRENT 115 mAmpere

CHMN02FGP-A

Halogens free devices

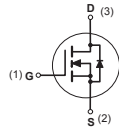
APPLICATION

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

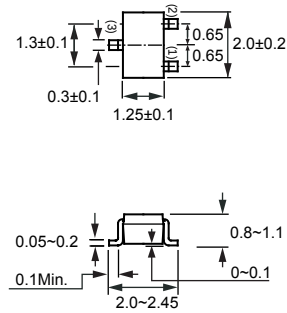
FEATURE

- * Small surface mounting type. (SC-70/SOT-323)
- * High density cell design for low $R_{DS(ON)}$.
- * Suitable for high packing density.
- * Rugged and reliable.
- * High saturation current capability.
- * Voltage controlled small signal switch.

CIRCUIT



SC-70/SOT-323



Dimensions in millimeters

SC-70/SOT-323

Absolute Maximum Ratings

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

Symbol	Parameter	CHMN02FGP-A	Units
V_{DS}	Drain-Source Voltage	60	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Maximum Drain Current - Continuous $T_A = 25^\circ\text{C}$	115	mA
P_D	Maximum Power Dissipation $T_A = 25^\circ\text{C}$	200	mW
T_J	Operating Temperature Range	-55 to 150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ\text{C}$

Thermal characteristics

$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient (Note 1)	625	$^\circ\text{C/W}$
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2014-09

ELECTRICAL CHARACTERISTIC (CHMN02FGP-A)

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	$V_{GS} = 0\text{ V}, I_D = 10\text{ }\mu\text{A}$	60			V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = 60\text{ V}, V_{GS} = 0\text{ V}$			1	μA
		$T_J = 125^\circ\text{C}$			0.5	mA
I_{GSSF}	Gate - Body Leakage, Forward	$V_{GS} = 15\text{ V}, V_{DS} = 0\text{ V}$			10	nA
I_{GSSR}	Gate - Body Leakage, Reverse	$V_{GS} = -15\text{ V}, V_{DS} = 0\text{ V}$			-10	nA

ON CHARACTERISTICS (Note 1)

$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = 250\text{ }\mu\text{A}$	1.0	1.5	2.0	V
$R_{DS(on)}$	Static Drain-Source On-Resistance	$V_{GS} = 5\text{ V}, I_D = 50\text{ mA}$ $T_C = 25^\circ\text{C}$		3.2	7.4	Ω
		$V_{GS} = 10\text{ V}, I_D = 500\text{ mA}$ $T_C = 125^\circ\text{C}$		4.4	13.4	
$I_{D(on)}$	On-State Drain Current	$V_{GS} = 10\text{ V}, V_{DS} = 7.5 V_{DS(on)}$	500	1000		mA
g_{FS}	Forward Transconductance	$V_{DS} = 10\text{ V}, I_D = 200\text{ mA}$	80			mS

DYNAMIC CHARACTERISTICS

C_{iss}	Input Capacitance	$V_{DS} = 25\text{ V}, V_{GS} = 0\text{ V},$ $f = 1.0\text{ MHz}$		22	50	pF
C_{oss}	Output Capacitance			11	25	
C_{rss}	Reverse Transfer Capacitance			2.0	5	
t_{on}	Turn-On Time (Note 4)	$V_{DD} = 30\text{ V}, R_L = 150\text{ }\Omega,$ $I_D = 200\text{ mA}, V_{gen} = 10\text{ V},$ $R_{GEN} = 25\text{ }\Omega$		7.0	20	nS
t_r	Turn-Off Time (Note 4)			11	20	

Note:

1. Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$.

RATING CHARACTERISTIC CURVES (CHMN02FGP-A)

Typical Electrical Characteristics

Figure 1. Output Characteristics

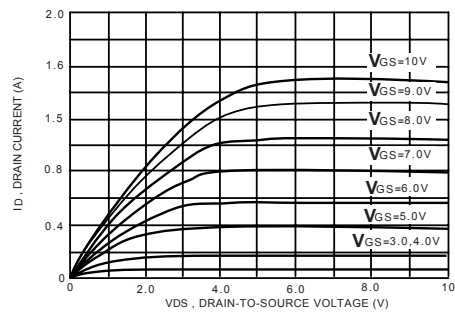


Figure 2. Transfer Characteristics

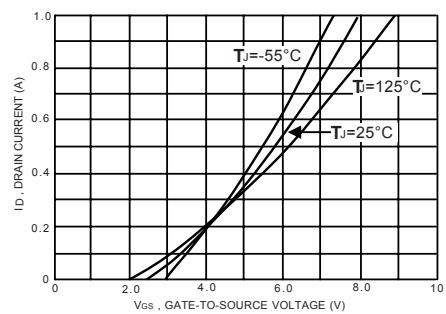
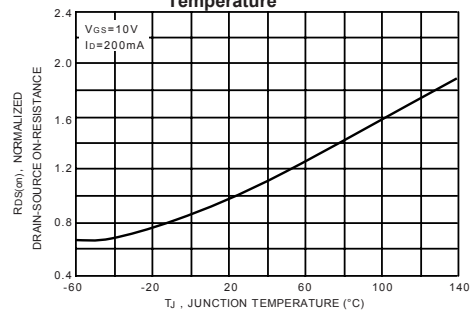


Figure3. On-Resistance Variation with Temperature





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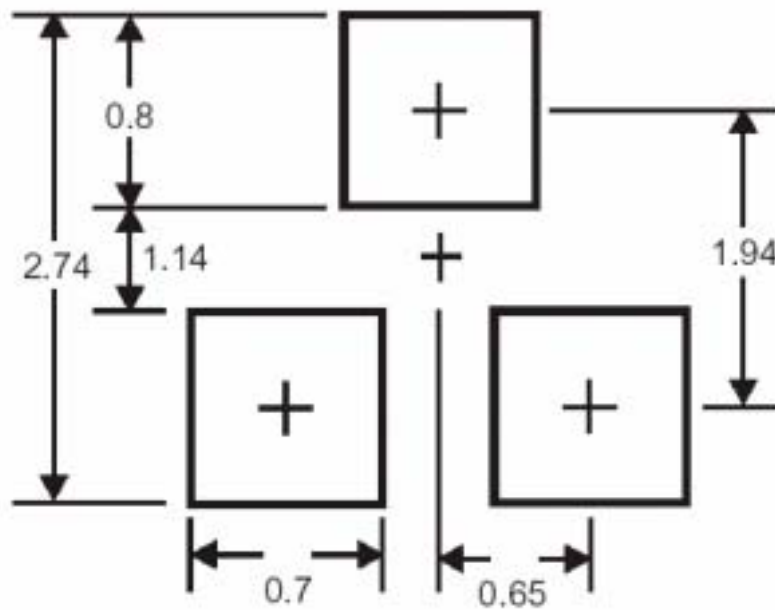
RECOMMENDED FOOT PRINT

all dimensions in mm

SC-70

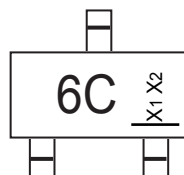
SOT-323

SC-70/SOT-323



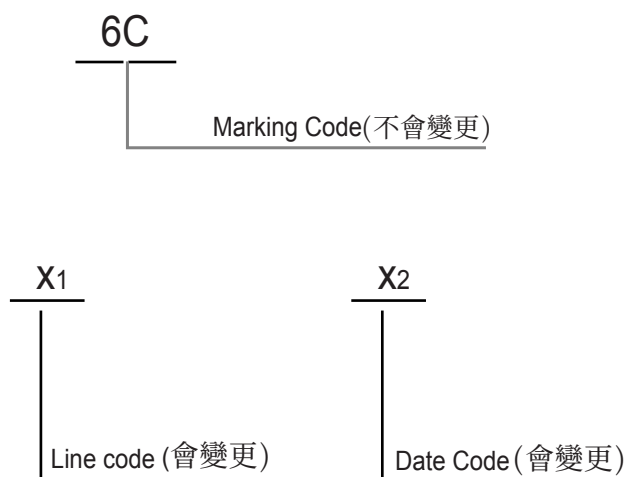
The Marking and Part No. for CHMN02FGP-A (SC-70)

Marking:



* Laser mark for marking code and cathode band

Part No.:



Data Code Standard

Date Code	1	2	3	4	5	6	7	8	9	T	V	C
2015Year	JAN.	FEB.	MAR.	APR	MAY	JUNE	JULY	AUG.	SEP.	OCT	NOV.	DEC.

Date Code	E	F	H	J	K	L	N	P	U	X	Y	Z
2014Year	JAN.	FEB.	MAR.	APR	MAY	JUNE	JULY	AUG.	SEP.	OCT	NOV.	DEC.

CUSTOMER :	APPROVED :	 CHENMKO LTD.
APPROVED :	CHECKED :	
CHECKED :	DRAWN :	