

Halogens free devices



CHENMKO ENTERPRISE CO.,LTD

SURFACE MOUNT

N-Channel Enhancement Mode Field Effect Transistor

VOLTAGE 60 Volts CURRENT 500 mAmpere

CHM1592XGP

APPLICATION

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

FEATURE

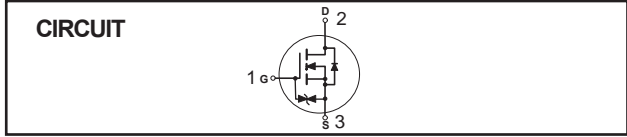
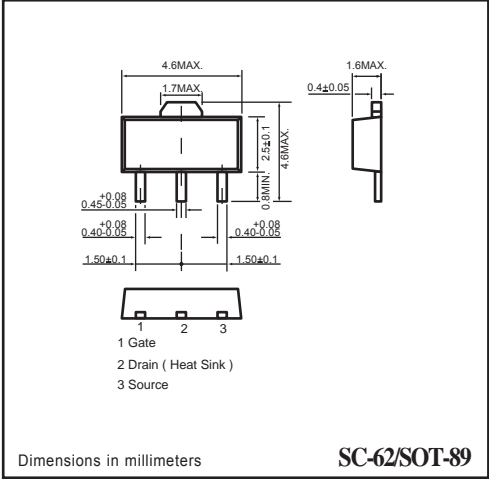
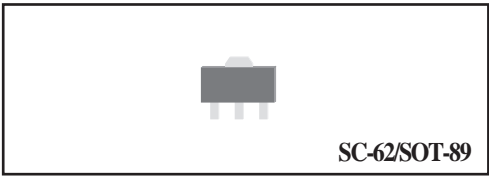
- * Small surface mounting type. (SC-62/SOT-89)
- * High density cell design for extremely low R_{DS(ON)}.
- * Rugged and reliable.
- * High saturation current capability.

CONSTRUCTION

- * N-Channel Enhancement

MARKING

- * 1592



Absolute Maximum Ratings T_A = 25°C unless otherwise noted

Symbol	Parameter	CHM1592XGP	Units
V _{DSS}	Drain-Source Voltage	60	V
V _{GSS}	Gate-Source Voltage	±20	V
I _D	Maximum Drain Current - Continuous	500	mA
	- Pulsed (Note 3)	1000	
P _D	Maximum Power Dissipation	2	W
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 limited by maximum junction temperature
 4. Guaranteed by design , not subject to production trsting

RATING CHARACTERISTIC CURVES (CHM1592XGP)

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	$V_{GS} = 0\text{ V}, I_D = 10\ \mu\text{A}$	60			V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = 60\text{ V}, V_{GS} = 0\text{ V}$			10	μA
I_{GSSF}	Gate-Body Leakage	$V_{GS} = 20\text{ V}, V_{DS} = 0\text{ V}$			+10	μA
I_{GSSR}	Gate-Body Leakage	$V_{GS} = -20\text{ V}, V_{DS} = 0\text{ V}$			-10	μA

ON CHARACTERISTICS (Note 2)

$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = 10\text{ V}, I_D = 1\text{ mA}$	0.8	1.2	2.0	V
$R_{DS(on)}$	Static Drain-Source On-Resistance	$V_{GS}=10\text{V}, I_D=0.3\text{A}$		1.2	2.0	Ω
		$V_{GS}=4.0\text{V}, I_D=0.3\text{A}$		1.6	2.5	
g_{FS}	Forward Transconductance	$V_{DS} = 10\text{ V}, I_D = 0.5\text{ A}$	400	570		mS

Dynamic Characteristics

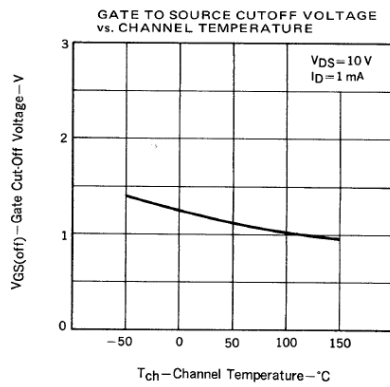
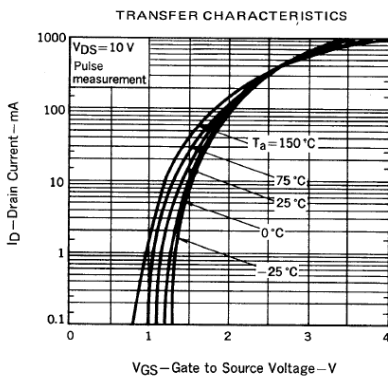
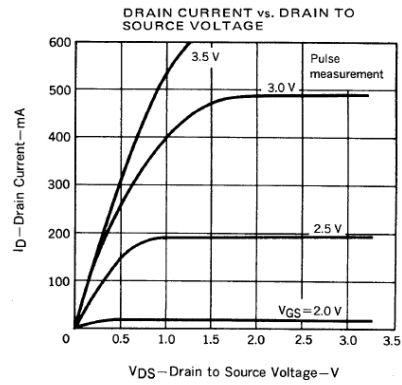
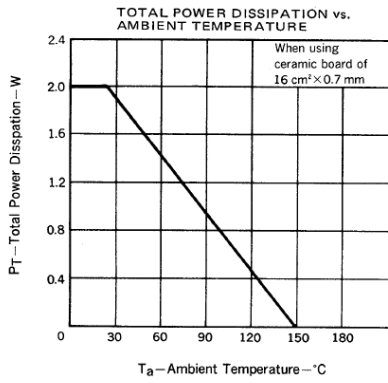
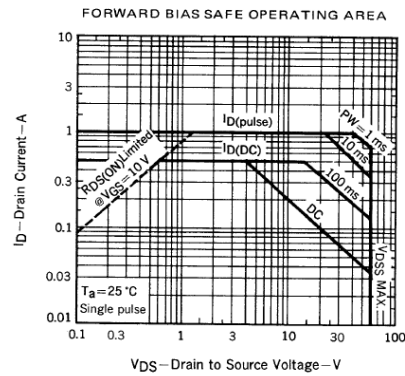
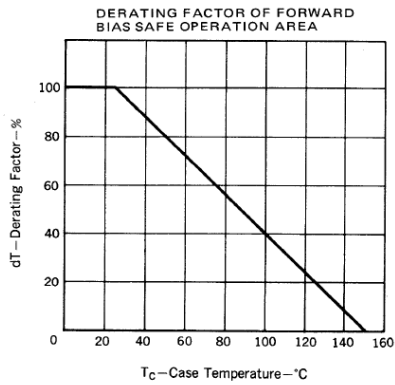
g_{FS}	Forward Transconductance	$V_{DS} = 10\text{ V}, I_D = 0.5\text{ A}$	400	570		mS
C_{iss}	Input Capacitance	$V_{DS} = 10\text{ V}, V_{GS} = 0\text{ V},$ $f = 1.0\text{ MHz}$		52		pF
C_{oss}	Output Capacitance			34		
C_{rss}	Reverse Transfer Capacitance			7		

SWITCHING CHARACTERISTICS (Note 4)

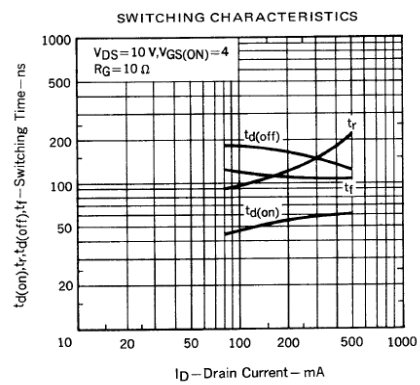
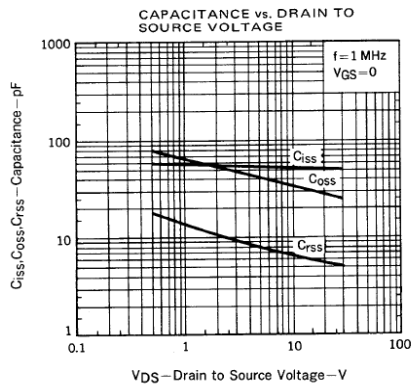
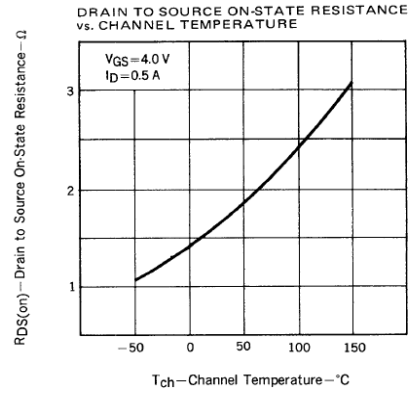
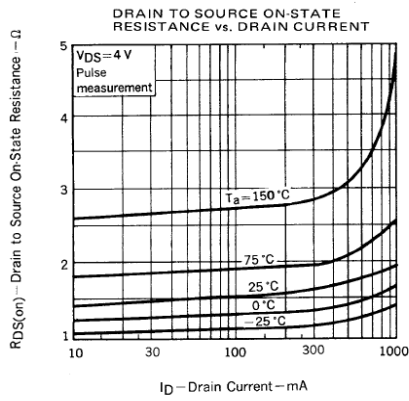
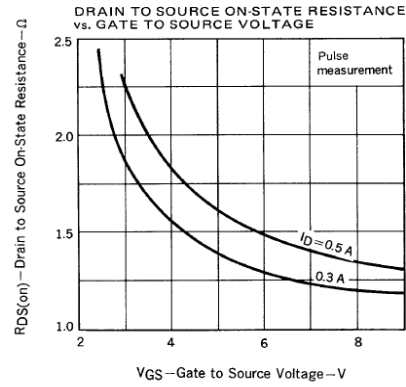
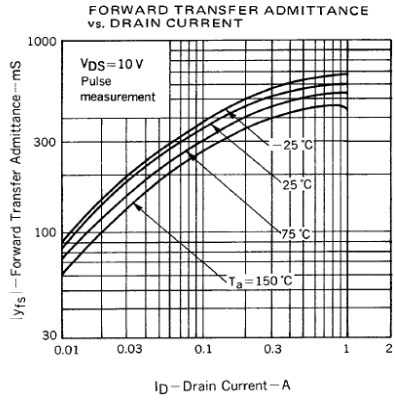
t_{on}	Turn-On Time	$V_{DD} = 10\text{ V}$ $I_D = 0.3\text{ A}, V_{GS} = 4\text{ V}$ $R_{GEN} = 10\ \Omega, R_L = 33\ \Omega$		60		nS
t_r	Rise Time			150		
t_{off}	Turn-Off Time			150		
t_f	Fall Time			100		

RATING CHARACTERISTIC CURVES (CHM1592XGP)

Typical Electrical Characteristics



RATING CHARACTERISTIC CURVES (CHM1592XGP)



RATING CHARACTERISTIC CURVES (CHM1592XGP)

