

Halogens free devices



**CHENMKO ENTERPRISE CO.,LTD**

**SURFACE MOUNT  
P-Channel Enhancement Mode Field Effect Transistor**

VOLTAGE 20 Volts CURRENT 5 Ampere

**CHM8433JGP**

**APPLICATION**

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

**FEATURE**

- \* Small flat package. (SO-8 )
- \* Super high dense cell design for extremely low R<sub>DS(ON)</sub>.
- \* High power and current handling capability.
- \* Lead free product is acquired.

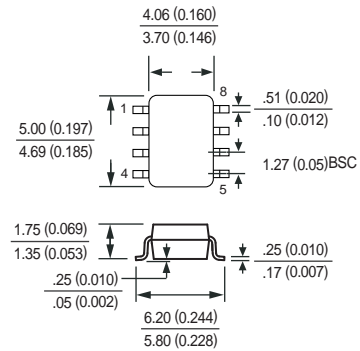
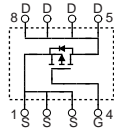
**CONSTRUCTION**

- \* P-Channel Enhancement



SO-8

**CIRCUIT**



Dimensions in millimeters

SO-8

**Absolute Maximum Ratings** T<sub>A</sub> = 25°C unless otherwise noted

Symbol	Parameter	CHM8433JGP	Units
V <sub>DSS</sub>	Drain-Source Voltage	-20	V
V <sub>GSS</sub>	Gate-Source Voltage	±8	V
I <sub>D</sub>	Maximum Drain Current - Continuous	-5.0	A
	- Pulsed (Note 3)	-20	
P <sub>D</sub>	Maximum Power Dissipation	2500	mW
T <sub>J</sub>	Operating Temperature Range	-55 to 150	°C
T <sub>STG</sub>	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

**Thermal characteristics**

R <sub>θJA</sub>	Thermal Resistance, Junction-to-Ambient (Note 1)	50	°C/W
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2006-02

## ELECTRICAL CHARACTERISTIC ( CHM8433JGP )

**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	$V_{GS} = 0\text{ V}, I_D = -250\ \mu\text{A}$	-20			V
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS} = -16\text{ V}, V_{GS} = 0\text{ V}$			-1	$\mu\text{A}$
$I_{GSSF}$	Gate-Body Leakage	$V_{GS} = 8\text{ V}, V_{DS} = 0\text{ V}$			+100	nA
$I_{GSSR}$	Gate-Body Leakage	$V_{GS} = -8\text{ V}, V_{DS} = 0\text{ V}$			-100	nA

### ON CHARACTERISTICS (Note 2)

$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = -250\ \mu\text{A}$	-0.5		-1.5	V
$R_{DS(on)}$	Static Drain-Source On-Resistance	$V_{GS} = -4.5\text{ V}, I_D = -5.2\text{ A}$		35	42	m $\Omega$
		$V_{GS} = -2.5\text{ V}, I_D = -2.0\text{ A}$		66	86	
$g_{FS}$	Forward Transconductance	$V_{DS} = -10\text{ V}, I_D = -5.2\text{ A}$		11		S

### SWITCHING CHARACTERISTICS (Note 4)

$Q_g$	Total Gate Charge	$V_{DS} = -15\text{ V}, I_D = -5.2\text{ A}$ $V_{GS} = -4.5\text{ V}$		20	26	nC
$Q_{gs}$	Gate-Source Charge			3.4		
$Q_{gd}$	Gate-Drain Charge			6.3		
$t_{on}$	Turn-On Time	$V_{DD} = -10\text{ V}$ $I_D = -1.0\text{ A}, V_{GS} = -4.5\text{ V}$ $R_{GEN} = 6\ \Omega$		23	50	nS
$t_r$	Rise Time			14	40	
$t_{off}$	Turn-Off Time			99	150	
$t_f$	Fall Time			42	75	

### DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS

$I_S$	Drain-Source Diode Forward Current	(Note 1)			-2.1	A
$V_{SD}$	Drain-Source Diode Forward Voltage	$I_S = -2.1\text{ A}, V_{GS} = 0\text{ V}$ (Note 2)			-1.3	V