

Halogens free devices



CHENMKO ENTERPRISE CO.,LTD

SURFACE MOUNT

P-Channel Enhancement Mode Field Effect Transistor

VOLTAGE 100 Volts CURRENT 11 Ampere

CHM12P10N; D

APPLICATION

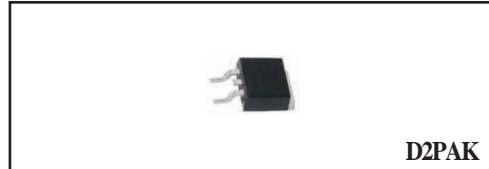
- * Servo motor control.
- * Power MOSFET gate drivers.
- * Other switching applications.

FEATURE

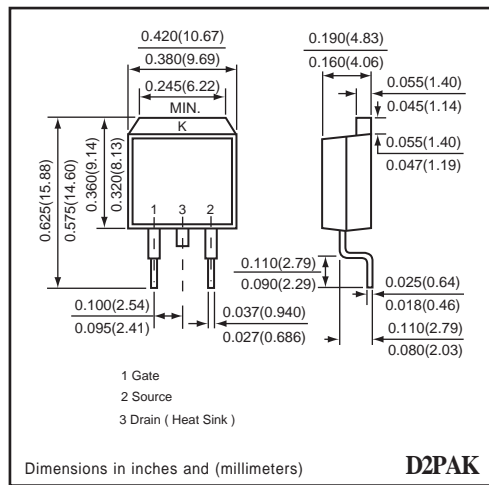
- * Small flat package. (D2PAK)
- * High density cell design for extremely low R_{DS(ON)}.
- * Rugged and reliable.

CONSTRUCTION

- * P-Channel Enhancement



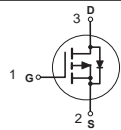
D2PAK



Dimensions in inches and (millimeters)

D2PAK

CIRCUIT



Absolute Maximum Ratings T_A = 25°C unless otherwise noted

Symbol	Parameter	CHM12P10NGP	Units
V _{DSS}	Drain-Source Voltage	-100	V
V _{GSS}	Gate-Source Voltage	±30	V
I _D	Maximum Drain Current - Continuous	-11	A
	- Pulsed (Note 3)	-44	
P _D	Maximum Power Dissipation	75	W
T _J	Operating Temperature Range	-55 to 175	°C
T _{STG}	Storage Temperature Range	-55 to 175	°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 _{θJA}	Thermal Resistance, Junction-to-Ambient (Note 1)	62.5	°C/W
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ELECTRICAL CHARACTERISTIC (CHM12P10NGP)

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

ON CHARACTERISTICS (Note 2)

$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = -250\ \mu\text{A}$	-2		-4	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS} = -10\text{ V}, I_D = -5.75\text{ A}$		260	315	$\text{m}\Omega$
g_{FS}	Forward Transconductance	$V_{DS} = -40\text{ V}, I_D = -5.75\text{ A}$		3.5		S

SWITCHING CHARACTERISTICS (Note 4)

Q_g	Total Gate Charge	$V_{DS} = -80\text{ V}, I_D = -11\text{ A}$ $V_{GS} = -10\text{ V}$		15.6	20	nC
Q_{gs}	Gate-Source Charge			3.6		
Q_{gd}	Gate-Drain Charge			6		
t_{on}	Turn-On Time	$V_{DD} = -50\text{ V}$ $I_D = -10\text{ A}, V_{GS} = -10\text{ V}$ $R_{GEN} = 25\ \Omega$		15	30	nS
t_r	Rise Time			12	25	
t_{off}	Turn-Off Time			31	60	
t_f	Fall Time			31	60	

DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS

I_S	Drain-Source Diode Forward Current	(Note 1)			-11	A
V_{SD}	Drain-Source Diode Forward Voltage	$I_S = -11\text{ A}, V_{GS} = 0\text{ V}$ (Note 2)			-1.5	V