



**CHENMKO ENTERPRISE CO.,LTD**

**SURFACE MOUNT**

**N-Channel Enhancement Mode Field Effect Transistor**

VOLTAGE 30 Volts CURRENT 65 Ampere

**CHM71A3PAPT**

Lead free devices

**APPLICATION**

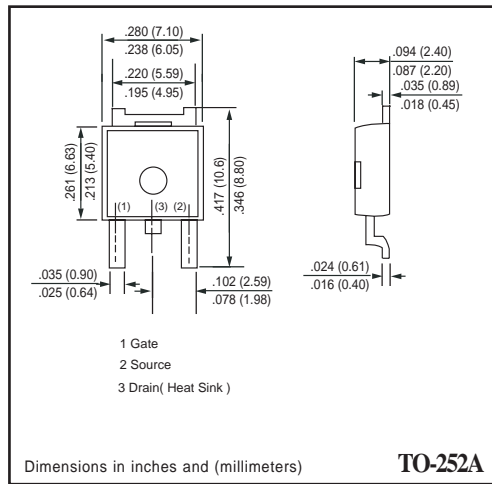
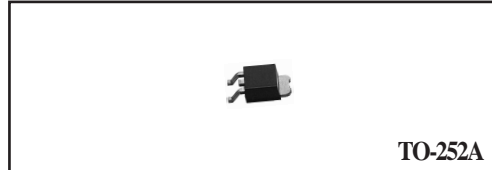
- \* Servo motor control.
- \* Power MOSFET gate drivers.
- \* Other switching applications.

**FEATURE**

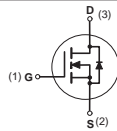
- \* Small package. (TO-252A)
- \* Super high dense cell design for extremely low R<sub>DS(ON)</sub>.
- \* High power and current handling capability.

**CONSTRUCTION**

- \* N-Channel Enhancement



**CIRCUIT**



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

Symbol	Parameter	CHM71A3PAPT	Units
V <sub>DSS</sub>	Drain-Source Voltage	30	V
V <sub>GSS</sub>	Gate-Source Voltage	±20	V
I <sub>D</sub>	Maximum Drain Current - Continuous	65	A
	- Pulsed (Note 3)	100	
P <sub>D</sub>	Maximum Power Dissipation at T <sub>c</sub> = 25°C	69	W
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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## RATING CHARACTERISTIC CURVES ( CHM71A3PAPT )

**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 <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0 V, I <sub>D</sub> = 250 $\mu$ A	30			V
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> = 30 V, V <sub>GS</sub> = 0 V			1	$\mu$ A
I <sub>GSSF</sub>	Gate-Body Leakage	V <sub>GS</sub> = 20V, V <sub>DS</sub> = 0 V			+100	nA
I <sub>GSSR</sub>	Gate-Body Leakage	V <sub>GS</sub> = -20V, V <sub>DS</sub> = 0 V			-100	nA

### ON CHARACTERISTICS (Note 2)

V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250 $\mu$ A	1		3	V
R <sub>DS(ON)</sub>	Static Drain-Source On-Resistance	V <sub>GS</sub> =10V, I <sub>D</sub> =15A		8.5	10	m $\Omega$
		V <sub>GS</sub> =5.0V, I <sub>D</sub> =13A		11.5	14	
g <sub>FS</sub>	Forward Transconductance	V <sub>DS</sub> =5V, I <sub>D</sub> = 12A		26		S

### SWITCHING CHARACTERISTICS (Note 4)

Q <sub>g</sub>	Total Gate Charge	V <sub>DS</sub> =10V, I <sub>D</sub> =15A V <sub>GS</sub> =10V		55	67	nC
Q <sub>gs</sub>	Gate-Source Charge			9		
Q <sub>gd</sub>	Gate-Drain Charge			18		
t <sub>on</sub>	Turn-On Time	V <sub>DD</sub> = 15V I <sub>D</sub> =1A, V <sub>GS</sub> = 10 V R <sub>GEN</sub> = 6 $\Omega$		30	60	nS
t <sub>r</sub>	Rise Time			63	110	
t <sub>off</sub>	Turn-Off Time			73	130	
t <sub>f</sub>	Fall Time			59	100	

### DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS

I <sub>S</sub>	Drain-Source Diode Forward Current				65	A
V <sub>SD</sub>	Drain-Source Diode Forward Voltage	I <sub>S</sub> = 2.3A, V <sub>GS</sub> = 0 V		0.9	1.3	V