# CHENMKO ENTERPRISE CO.,LTD

**CHM7400SPT**

## SURFACE MOUNT
## N-Channel Enhancement Mode Field Effect Transistor

*VOLTAGE 30 Volts CURRENT 2.8 Ampere*

Lead free devices

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

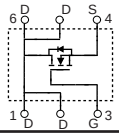
### FEATURE
* Small flat package. (SC-88 )
* Super high dense cell design for extremely low $R_{DS(ON)}$.
* High power and current handing capability.
* Lead free product is acquired.

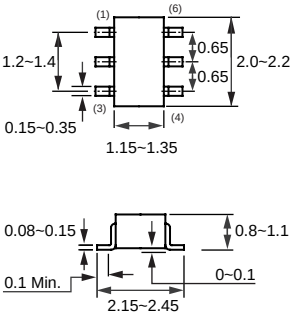
### CONSTRUCTION
* N-Channel Enhancement

### MARKING
* 7400

SC-88/SOT-363

### CIRCUIT




Dimensions in millimeters

SC-88/SOT-363

## Absolute Maximum Ratings

$T_A$ = 25°C unless otherwise noted

| Symbol | Parameter | CHM7400SPT | Units |
|---|---|---|---|
| $V_{DSS}$ | Drain-Source Voltage | 30 | V |
| $V_{GSS}$ | Gate-Source Voltage | ±12 | V |
| $I_D$ | Maximum Drain Current - Continuous | 2.8 | A |
| | - Pulsed | 10 | |
| $P_D$ | Maximum Power Dissipation | 625 | mW |
| $T_J$ | Operating Temperature Range | -55 to 150 | °C |
| $T_{STG}$ | Storage Temperature Range | -55 to 150 | °C |

## Thermal characteristics

| | | | |
|---|---|---|---|
| $R_{\theta JA}$ | Thermal Resistance, Junction-to-Ambient (Note 1) | 250 | °C/W |

2007-10

# RATING CHARACTERISTIC CURVES ( CHM7400SPT )

## Electrical Characteristics $T_A$ = 25°C unless otherwise noted

| Symbol | Parameter | Conditions | Min | Typ | Max | Units |
|---|---|---|---|---|---|---|
| **OFF CHARACTERISTICS** | | | | | | |
| $BV_{DSS}$ | Drain-Source Breakdown Voltage | $V_{GS}$ = 0 V, $I_D$ = 250 µA | 30 | | | V |
| $I_{DSS}$ | Zero Gate Voltage Drain Current | $V_{DS}$ = 24 V, $V_{GS}$ = 0 V | | | 1 | µA |
| $I_{GSSF}$ | Gate-Body Leakage | $V_{GS}$ = 12V,$V_{DS}$ = 0 V | | | +100 | nA |
| $I_{GSSR}$ | Gate-Body Leakage | $V_{GS}$ = -12V, $V_{DS}$ = 0 V | | | -100 | nA |
| **ON CHARACTERISTICS** | | | | | | |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}$ = $V_{GS}$, $I_D$ = 250 µA | 0.8 | | 1.6 | V |
| $R_{DS(ON)}$ | Static Drain-Source On-Resistance | $V_{GS}$=10V, $I_D$=2.8A | | 62 | 77 | mΩ |
| | | $V_{GS}$=4.5V, $I_D$=2.3A | | 70 | 85 | |
| **SWITCHING CHARACTERISTICS** | | | | | | |
| $Q_g$ | Total Gate Charge | $V_{DS}$=15V, $I_D$=2.0A<br>$V_{GS}$=4.5V | | 4.2 | 6 | nC |
| $Q_{gs}$ | Gate-Source Charge | | | 0.6 | | |
| $Q_{gd}$ | Gate-Drain Charge | | | 1.5 | | |
| $t_{on}$ | Turn-On Time | $V_{DD}$= 15V<br>$V_{GS}$= 10 V<br>$R_{GEN}$= 10Ω, $R_L$= 10Ω | | 2.5 | | nS |
| $t_r$ | Rise Time | | | 2.5 | | |
| $t_{off}$ | Turn-Off Time | | | 20 | | |
| $t_f$ | Fall Time | | | 4 | | |
| **DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS** | | | | | | |
| $I_S$ | Drain-Source Diode Forward Current | | | | 2.5 | A |
| $V_{SD}$ | Drain-Source Diode Forward Voltage | $I_S$ = 1.25A，$V_{GS}$ = 0 V | | | 1.2 | V |