CHENMKO ENTERPRISE CO.,LTD

CHM6336JPT

SURFACE MOUNT

N-Channel Enhancement Mode Field Effect Transistor

VOLTAGE 60 Volts CURRENT 5.8 Ampere

Lead free devices

APPLICATION

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

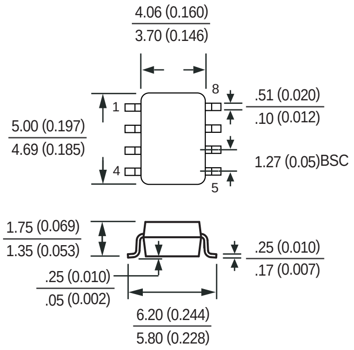
FEATURE

- * Small flat package. (SO-8)
- * Super high dense cell design for extremely low $R_{DS(ON)}$.
- * High power and current handing capability.
- * Lead free product is acquired.

CONSTRUCTION

* N-Channel Enhancement

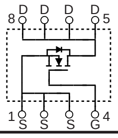
SO-8



Dimensions in millimeters

SO-8

CIRCUIT



Absolute Maximum Ratings

T_A = 25°C unless otherwise noted

Symbol	Parameter	CHM6336JPT	Units
V_{DSS}	Drain-Source Voltage	60	V
V_{GSS}	Gate-Source Voltage	±20	V
I_D	Maximum Drain Current - Continuous	5.8	A
I_{DM}	Maximum Drain Current - Pulsed	24	A
P_D	Maximum Power Dissipation	2500	mW
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 linited by maximum junction temperature
4. Guaranteed by design , not subject to production trsting

Thermal characteristics

$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient (Note 1)	50	°C/W

2007-11

RATING CHARACTERISTIC (CHM6336JPT)

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	60			V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = 60 V, V_{GS} = 0 V			1	µA
I_{GSSF}	Gate-Body Leakage	V_{GS} = 20V, V_{DS} = 0 V			+100	nA
I_{GSSR}	Gate-Body Leakage	V_{GS} = -20V, V_{DS} = 0 V			-100	nA
ON CHARACTERISTICS (Note 2)						
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_D = 250 µA	1		3	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	V_{GS}=10V, I_D=5.8A		33	41	mΩ
		V_{GS}=4.5V, I_D=4.7A		41	55	
g_{FS}	Forward Transconductance	V_{DS} =15V, I_D = 5.8A		11		S
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS} = 30V, V_{GS} = 0V, f = 1.0 MHz		750		pF
C_{oss}	Output Capacitance			105		
C_{rss}	Reverse Transfer Capacitance			65		
SWITCHING CHARACTERISTICS (Note 4)						
Q_g	Total Gate Charge	V_{DS}=30V, I_D=5.8A V_{GS}=10V		22	29	nC
Q_{gs}	Gate-Source Charge			3.0		
Q_{gd}	Gate-Drain Charge			4.5		
t_{on}	Turn-On Time	V_{DD}= 30V I_D= 4.4A, V_{GS}= 10 V R_{GEN}= 1 Ω		15	30	nS
t_r	Rise Time			4	15	
t_{off}	Turn-Off Time			37	80	
t_f	Fall Time			5	15	
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
I_S	Drain-Source Diode Forward Current	(Note 1)			5.8	A
V_{SD}	Drain-Source Diode Forward Voltage	I_S = 2A, V_{GS} = 0 V (Note 2)			1.2	V

RATING CHARACTERISTIC CURVES (CHM6336JPT)

Typical Electrical Characteristics

Figure 1. Output Characteristics

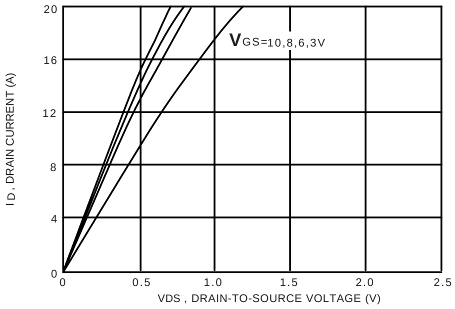


Figure 2. Transfer Characteristics

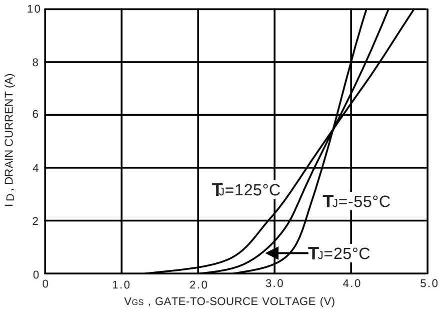


Figure 3. Gate Charge

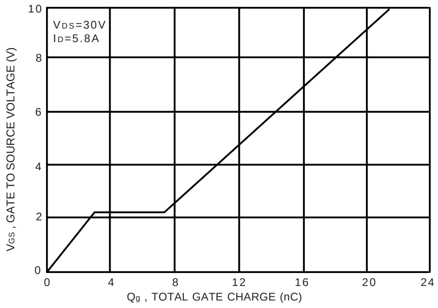


Figure 4. On-Resistance Variation with Temperature

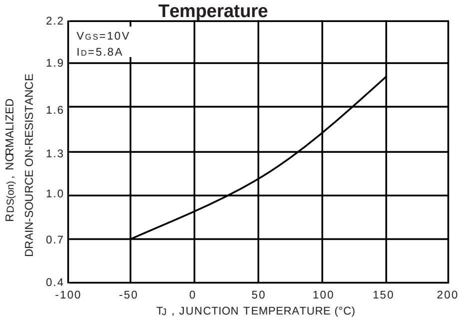


Figure 5. Gate Threshold Variation with Temperature