

Halogens free devices



**CHENMKO ENTERPRISE CO.,LTD**

**SURFACE MOUNT**

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

VOLTAGE 50 Volts CURRENT 0.13 Ampere

**CHT84GP**

**APPLICATION**

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

**FEATURE**

- \* Small surface mounting type. (SOT-23)
- \* High density cell design for low  $R_{DS(ON)}$ .
- \* Suitable for high packing density.
- \* Rugged and reliable.
- \* High saturation current capability.
- \* Voltage controlled small signal switch.

**CONSTRUCTION**

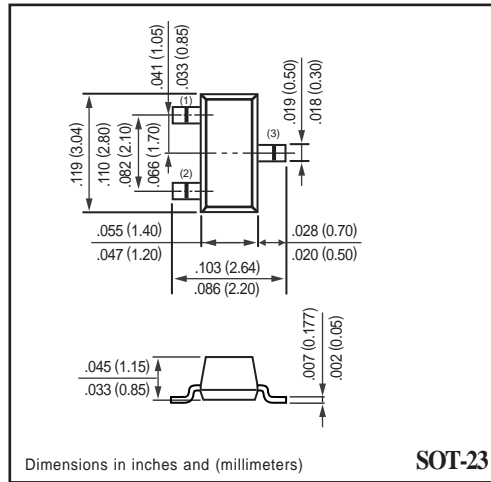
- \* P-Channel Enhancement

**MARKING**

- \* ZT

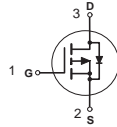


**SOT-23**



**SOT-23**

**CIRCUIT**



**Absolute Maximum Ratings**  $T_A = 25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	CHT84GP	Units
$V_{DSS}$	Drain-Source Voltage	-50	V
$V_{GSS}$	Gate-Source Voltage - Continuous	$\pm 20$	V
$I_D$	Maximum Drain Current - Continuous	-0.13	A
$P_D$	Maximum Power Dissipation	300	mW
$T_J, T_{STG}$	Operating and Storage Temperature Range	-55 to 150	$^\circ\text{C}$

**Thermal characteristics**

$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	417	$^\circ\text{C/W}$
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## RATING CHARACTERISTIC CURVES ( CHT84GP )

**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	$V_{GS} = 0\text{ V}, I_D = -250\ \mu\text{A}$	-50			V
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS} = -50\text{ V}, V_{GS} = 0\text{ V}$			-15	$\mu\text{A}$
		$V_{DS} = -25\text{ V}, V_{GS} = 0\text{ V}$			-100	nA
$I_{GSSF}$	Gate - Body Leakage, Forward	$V_{GS} = 20\text{ V}, V_{DS} = 0\text{ V}$			10	nA
$I_{GSSR}$	Gate - Body Leakage, Reverse	$V_{GS} = -20\text{ V}, V_{DS} = 0\text{ V}$			-10	nA

### ON CHARACTERISTICS (Note 1)

$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = 1.0\text{ mA}$	-0.8		-2.0	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS} = -5.0\text{ V}, I_D = 0.1\text{ A}$			10	$\Omega$
$g_{FS}$	Forward Transconductance	$V_{DS} = -25\text{ V}, I_D = 100\text{ mA}$	0.05			S

### DYNAMIC CHARACTERISTICS

$C_{iss}$	Input Capacitance	$V_{DS} = -25\text{ V}, V_{GS} = 0\text{ V},$ $f = 1.0\text{ MHz}$			45	pF
$C_{oss}$	Output Capacitance				25	
$C_{rss}$	Reverse Transfer Capacitance				12	
$t_{on}$	Turn-On Time	$V_{DD} = -30\text{ V}$ $I_D = -270\text{ mA}, V_{GS} = -10\text{ V},$		10		nS
$t_{off}$	Turn-Off Time	$R_{GEN} = 50\ \Omega$		18		

## RATING CHARACTERISTIC CURVES ( CHT84GP )

### Typical Electrical Characteristics

Figure 1. On-Region Characteristics

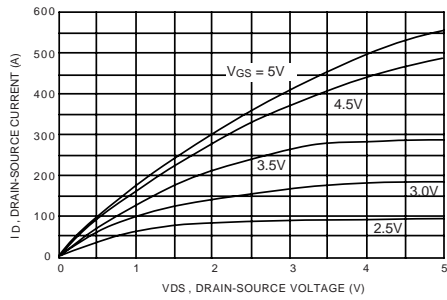


Figure 2. On-Resistance Variation with Temperature

