



**CHENMKO ENTERPRISE CO.,LTD**

*Halogens free devices*

**SURFACE MOUNT**

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

VOLTAGE 20 Volts CURRENT 200 mAmpere

**CHM3K33VESGP**

**APPLICATION**

\* High speed switching. Analog switching.

**FEATURE**

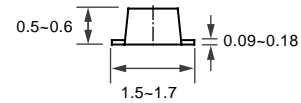
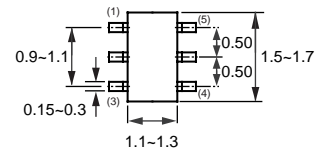
- \* Small surface mounting type. (SC-88/SOT-363)
- \* Input impedance is high, and not necessary to consider a drive electric current.
- \* High speed switching.
- \* Small package for easy mounting.
- \* ESD protect in input gate 2KV

**CONSTRUCTION**

Silicon N-Channel MOSFET



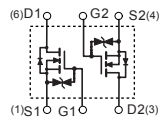
**SOT-563**



Dimensions in millimeters

**SOT-563**

**CIRCUIT**



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

Symbol	Parameter	CHM3K33VESGP	Units
$V_{DSS}$	Drain-Source Voltage	20	V
$V_{GSS}$	Gate-Source Voltage - Continuous	$\pm 8$	V
$I_D$	Drain Current - Continuous	200	mA
	- Pulsed (Note1)	400	mA
$P_D$	Power Dissipation (Note2)	125	mW
$T_J$	Operating Temperature Range	-55 to 150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range	-55 to 150	$^\circ\text{C}$

Note:

1.  $P_w < 10\mu\text{S}$ , Duty cycle  $< 1\%$

2010-07

## ELECTRICAL CHARACTERISTIC ( CHM3K33VESGP )

**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	$V_{GS} = 0\text{ V}, I_D = 100\mu\text{A}$	20			V
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS} = 20\text{ V}, V_{GS} = 0\text{ V}$			10	$\mu\text{A}$
$I_{GSSF}$	Gate - Body Leakage, Forward	$V_{GS} = 5\text{ V}, V_{DS} = 0\text{ V}$			500	nA
$I_{GSSR}$	Gate - Body Leakage, Reverse	$V_{GS} = -5\text{ V}, V_{DS} = 0\text{ V}$			-500	nA

### ON CHARACTERISTICS (Note 2)

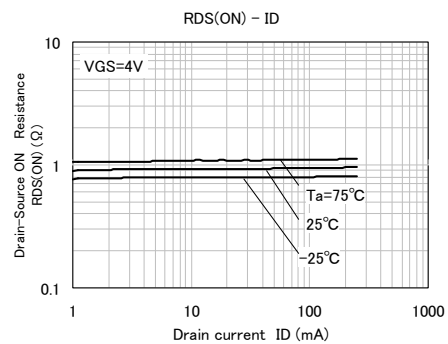
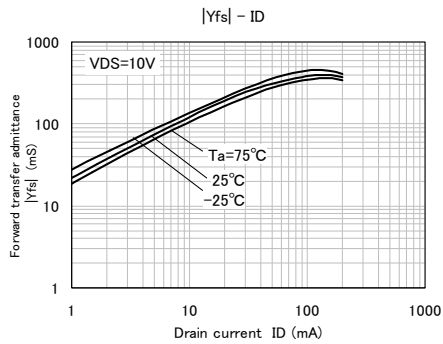
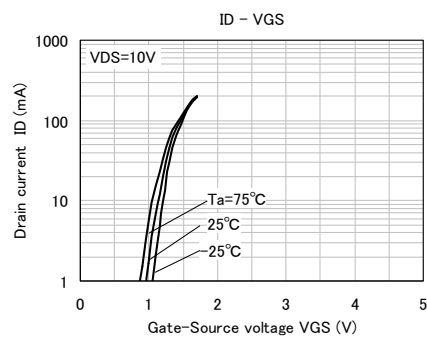
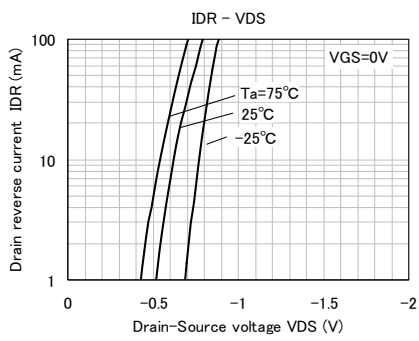
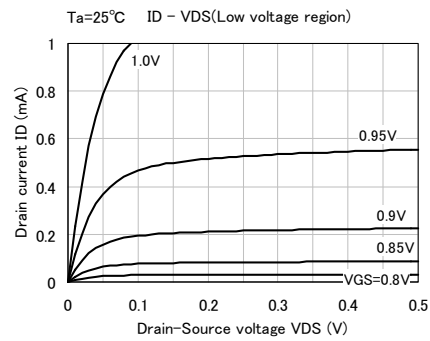
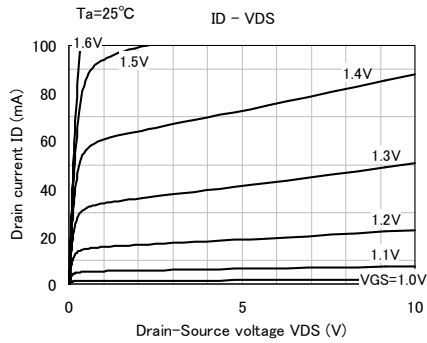
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	0.6		1.2	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=4\text{V}, I_D=0.1\text{A}$		900		$\text{m}\Omega$
$g_{FS}$	Forward Transconductance	$V_{DS}=10\text{V}, I_D = 0.1\text{A}$		300		S

### Dynamic Characteristics

$C_{ISS}$	Input Capacitance	$V_{DS} = 10\text{V}, V_{GS} = 0\text{V},$ $f = 1.0\text{ MHz}$		34		pF
$C_{OSS}$	Output Capacitance			8.5		
$t_{on}$	Turn-On Time	$V_{DD}= 5\text{V}$		14		nS
$t_{off}$	Turn-Off Time	$I_D=10\text{mA}, V_{GS}= 0\sim 5\text{ V}$		85		

# RATING CHARACTERISTIC CURVES ( CHM3K33VESGP )

## Typical Electrical Characteristics



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