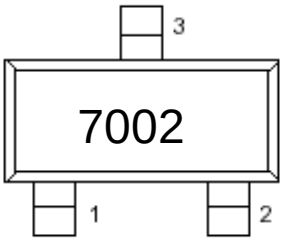
Kingtronics®

CDL7002-ME

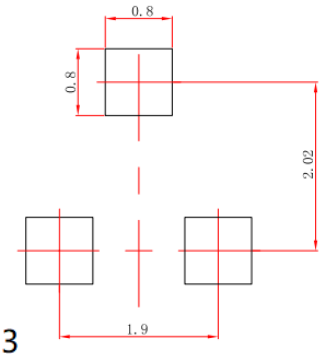
MOSFET

Marking: 7002

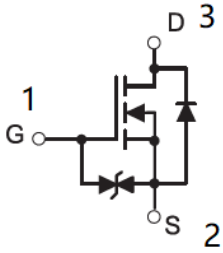


Top view

Suggested Layout

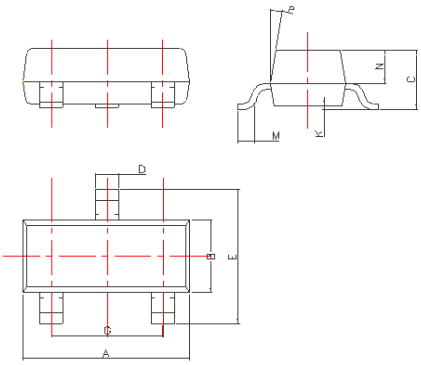


(±0.05mm)



SOT-23

Dimension



DIM	Millimeters
A	2.85~3.04
B	1.30±0.10
C	1.00±0.10
D	0.45±0.05
E	2.25~2.55
G	1.90±0.1
K	0.00-0.10
M	0.20 min
N	0.60±0.10
P	7±2°

MAXIMUM RATINGS (Ta=25℃)

Characteristic	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	60	Vdc
Gate-Source Voltage	V_{GSS}	±20	Vdc
Drain Current—Continuous	I_D	115	mAdc
Peak Drain Current	I_{DM}	800	mAdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board(1) T_A=25℃	PD	200	mW
Total Device Dissipation Alumina Substrate,(2) T_A=25℃	P_D	300	mW
Junction and Storage Temperature	T_J, T_{stg}	150, -55 to +150	℃

1. FR-5=1.0×0.75×0.062in, printed-circuit board.
2. Alumina=0.4×0.3×0.024in, 99.5%alumina

ELECTRICAL CHARACTERISTICS (TA=25℃ unless otherwise noted)

Characteristic	Symbol	Test Condition	Min	Type	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D =10μA	60	70	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=60V, V_{GS}=0V	-	-	1.0	μA
Gate-Body Leakage Current,Forward	I_{GSSF}	V_{GS}=20V, V_{DS}=0V	-	-	10	nA
Gate-Body Leakage Current, Reverse	I_{GSSR}	V_{GS}=-20V, V_{DS}=0V	-	-	-10	uA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS} ,I_D =250μA	1.35	1.6	1.85	V
On-State Drain Current	$I_{D(on)}$	V_{DS}≥2$V_{DS(on)}$,V_{GS}=10V	500	-	-	mA

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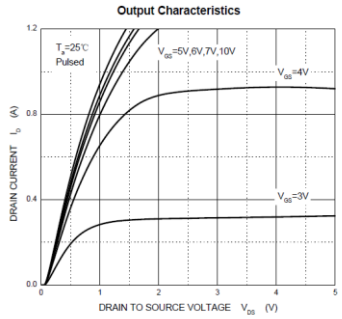
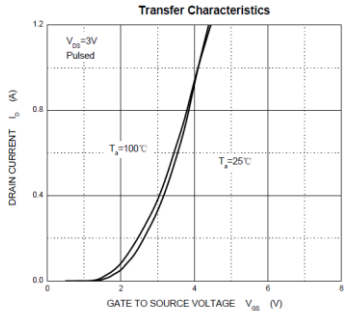
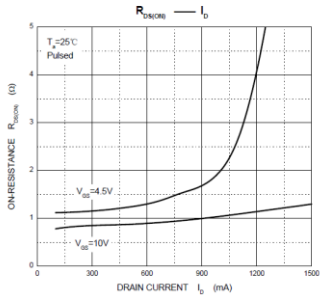
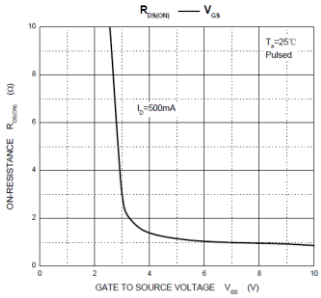
Static Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D =300mA V_{GS}=4.5V, I_D =200mA	- -	1.5 2.0	3 4	Ohm
Forward Transconductance	g_{fs}	V_{DS}≥2$V_{DS(on)}$, I_D=200mA	80	-	-	mS
Diode Forward On-Voltage	V_{FSD}	V_{GS}=0V, I_S =115mA	-	-	1.2	V
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=25V,I_D=500mA, R_G=25Ω,R_L=50Ω, V_{gen}=10V	-	-	10	ns
Turn-Off Delay Time	$t_{d(off)}$		-	-	15	
Input Capacitance	Ciss	V_{DS}=25V, V_{GS}=0V, f=1MHz	-	-	40	pF
Output Capacitance	Coss	V_{DS}=25V, V_{GS}=0V, f=1MHz	-	-	30	pF
Reverse Transfer Capacitance	Crss	V_{DS}=25V, V_{GS}=0V, f=1MHz	-	-	10	pF
Electro-Static discharge	ESD	HBM	-	-	2000	V

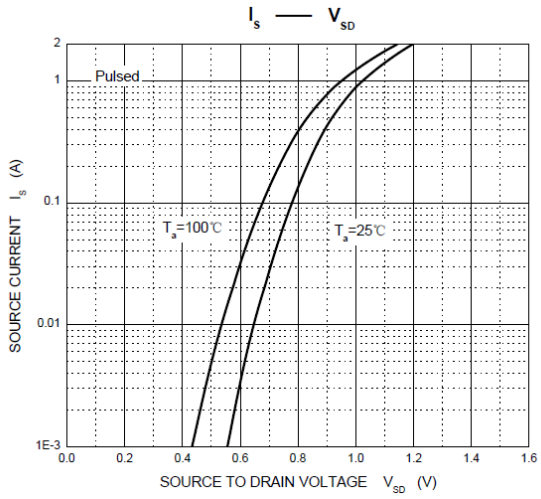
Typical Performance Characteristics

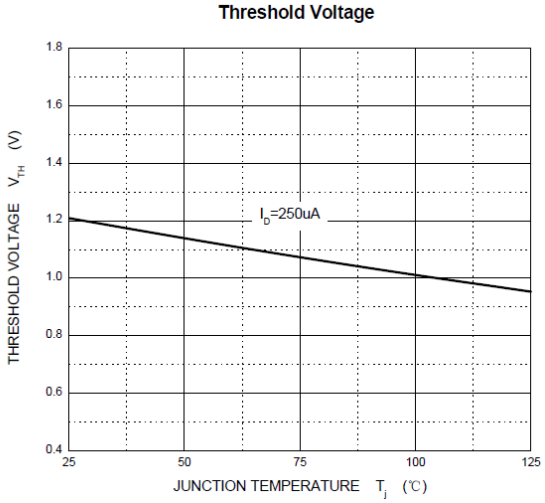












Note: Specifications are subject to change without notice.