

**Description**

- High speed switching application.

**Features**

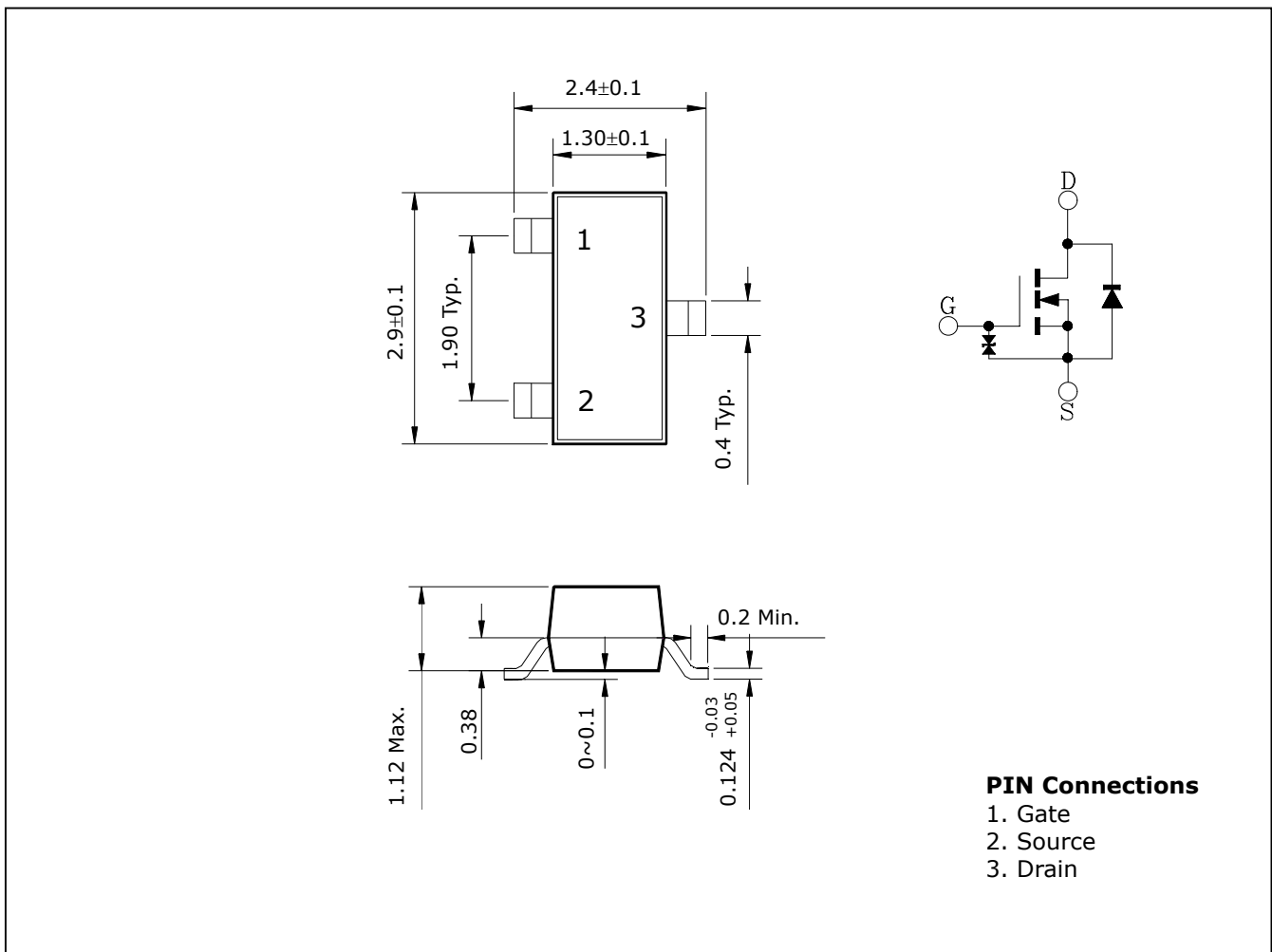
- High density cell design for low  $R_{DS(ON)}$ .
- Voltage controlled small signal switch
- Include Zener protection for ESD ruggedness.

**Ordering Information**

Type NO.	Marking	Package Code
STK0602	K602	SOT-23

**Outline Dimensions**

unit : mm



## Absolute maximum ratings

(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Drain-Source voltage	$V_{DSS}$	60	V
Gate-Source voltage	$V_{GS}$	±8	V
Maximum Drain current	$I_D$	200	mA
Pulsed Drain Current	$I_{DP}$	800	mA
Drain Power dissipation	$P_D$	200	mW
Operating Junction and Storage temperature range	$T_J, T_{stg}$	-55~150	°C

## Electrical Characteristics

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Drain-Source breakdown voltage	$BV_{DSS}$	$I_D=10\mu A, V_{GS}=0$	60	-	-	V
Gate-Threshold voltage	$V_{GS(th)}$	$I_D=1\mu A, V_{DS}=5V$	0.8	-	1.8	V
Zero Gate voltage drain current	$I_{DSS}$	$V_{DS}=60V, V_{GS}=0$	-	-	1.0	μA
Gate-body leakage	$I_{GSS}$	$V_{DS}=0V, V_{GS}=\pm 6V$	-	-	±1.0	μA
Drain-Source on-resistance	$R_{DS(on)}$	$V_{GS}=5V, I_D=10mA$	-	2.5	6.0	Ω
		$V_{GS}=10V, I_D=10mA$	-	2.0	4.0	
Forward transconductance	$g_{fs}$	$V_{DS}=5V, I_D=20mA$	20	65	-	mS
Input capacitance	$C_{iss}$	$V_{DS}=5V, V_{GS}=0, f=1MHz$	-	26	-	pF
Output capacitance	$C_{oss}$		-	20	-	
Reverse Transfer capacitance	$C_{rss}$		-	10	-	
Turn-on delay time	$t_{d(on)}$	$V_{DD}=5V, I_D=10mA$ $V_{GS}=5V$ $R_L=500\Omega$	-	150	-	ns
Rise time	$t_r$		-	240	-	
Turn-off delay time	$t_{d(off)}$		-	200	-	
Fall time	$t_f$		-	300	-	

Electrical Characteristic Curves

Fig. 1  $I_D - V_{DS}$

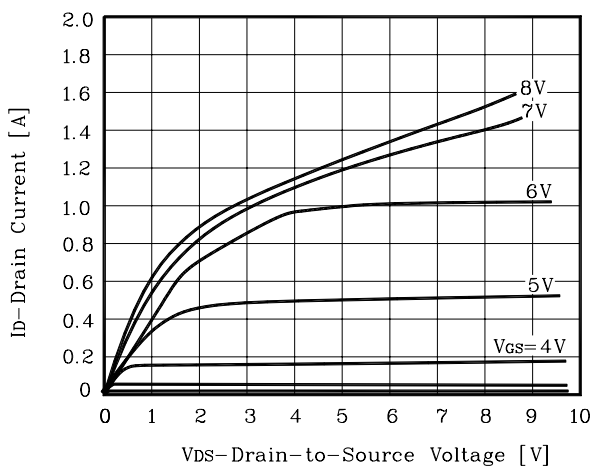


Fig. 2  $I_D - V_{DS}$

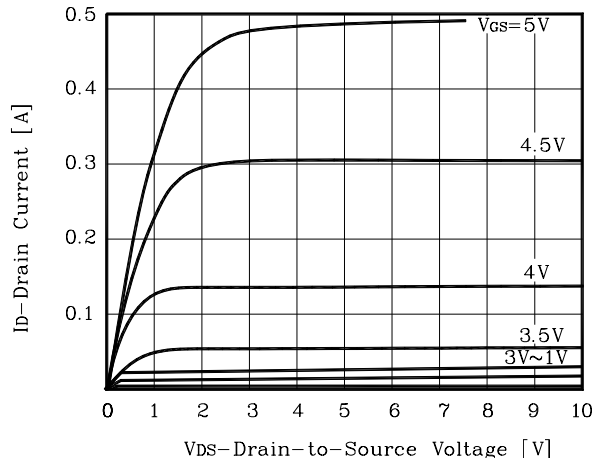


Fig. 3  $I_D - V_{GS}$

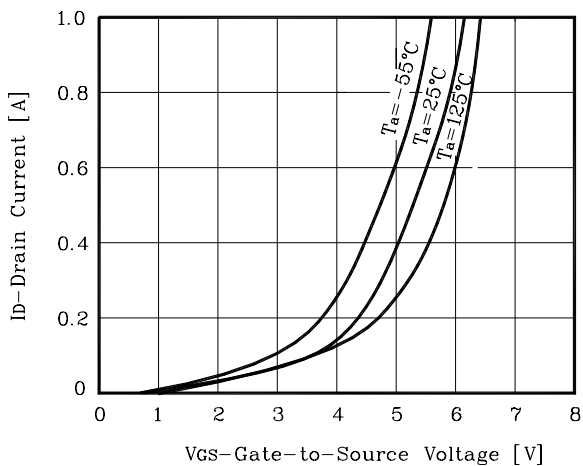


Fig. 4  $r_{DS(on)} - I_D$

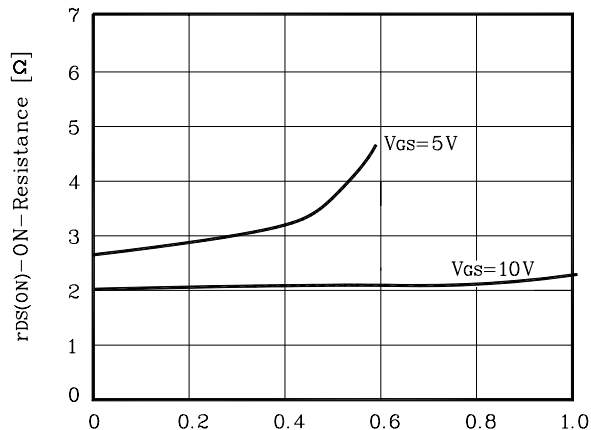


Fig. 5 C -  $V_{DS}$

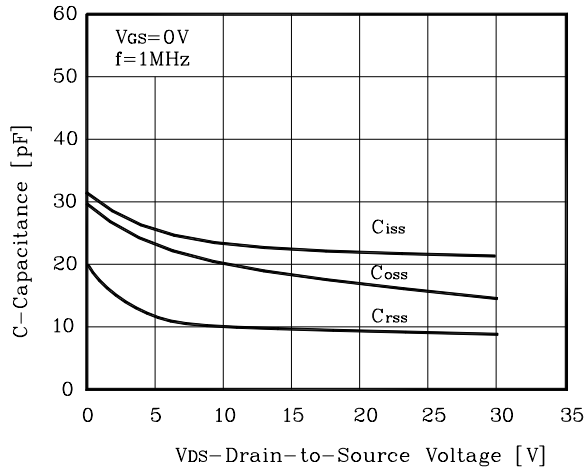
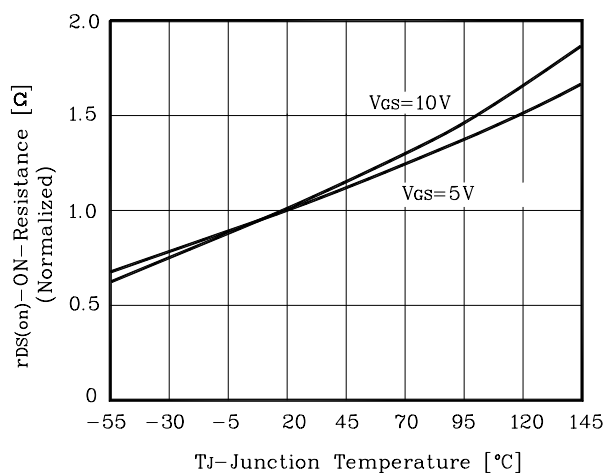


Fig. 6  $r_{DS(on)} - T_J$



Electrical Characteristic Curves

Fig. 7  $r_{DS(on)}$  -  $V_{GS}$

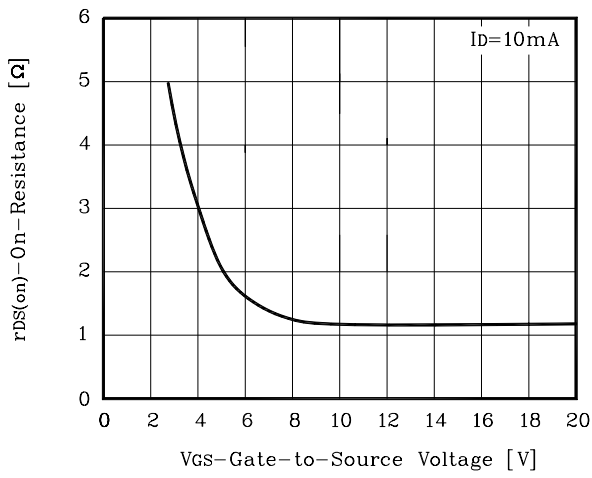


Fig. 8  $I_S$  -  $V_{SD}$

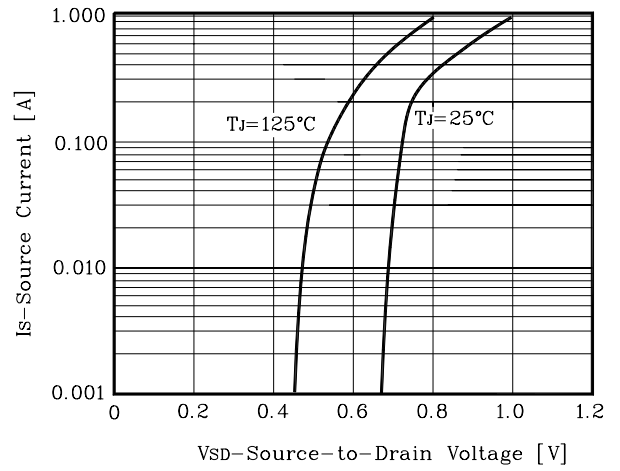
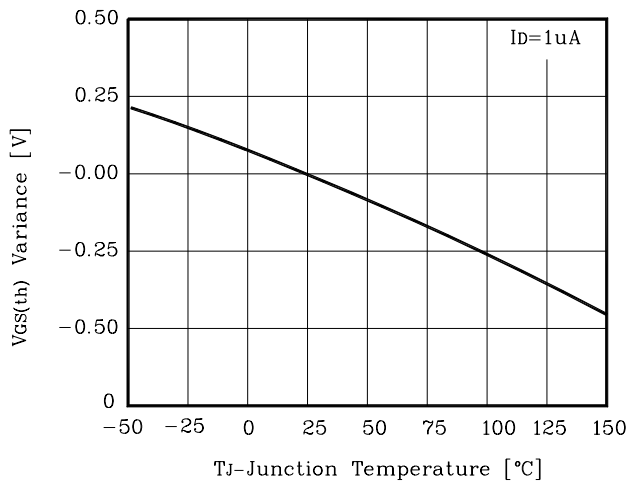


Fig. 9  $V_{GS(th)}$  -  $T_J$



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