

ULTRA-HIGH SPEED SWITCHING APPLICATIONS
ANALOG SWITCH APPLICATIONS

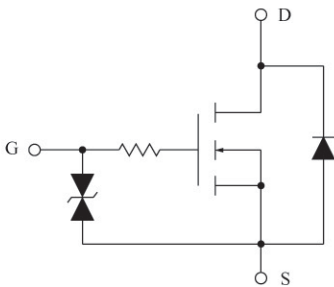
FEATURES

- 2.5 Gate Drive.
- Low Threshold Voltage : $V_{th}=0.5 \sim 1.5V$.
- High Speed.
- Small Package.
- Enhancement-Mode.

MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GSS}	± 20	V
DC Drain Current	I_D	50	mA
Drain Power Dissipation	P_D	100	mW
Channel Temperature	T_{ch}	150	°C
Storage Temperature Range	T_{stg}	-55 ~ 150	°C

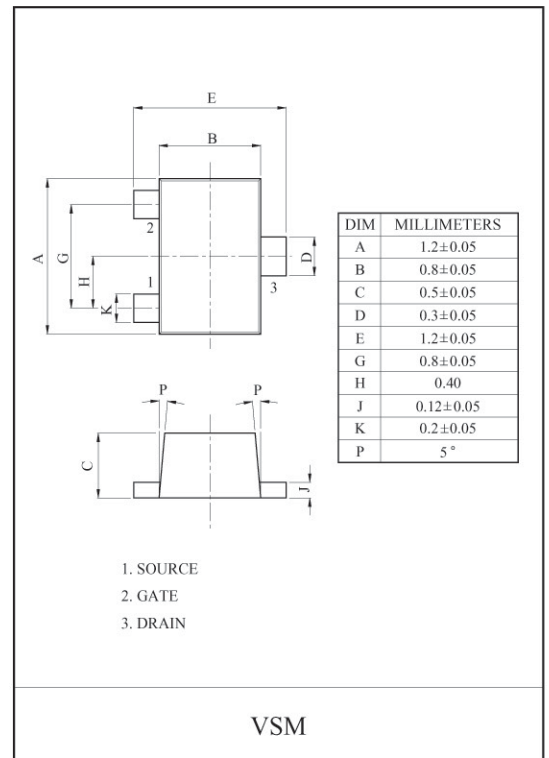
EQUIVALENT CIRCUIT



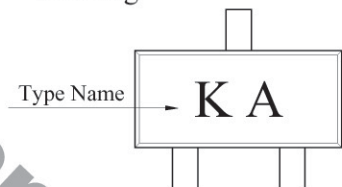
THIS TRANSISTOR IS ELECTROSTATIC SENSITIVE DEVICE.
PLEASE HANDLE WITH CAUTION.

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I_{GSS}	$V_{GS}=\pm 1V \quad V_{DS}=0V$	-	-	± 1	μA
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	$I_D=100\mu A \quad V_{GS}=0V$	30	-	-	V
Drain Cut-off Current		I_{DSS}	$V_{DS}=30V \quad V_{GS}=0V$	-	-	1	μA
Gate Threshold Voltage		V_{th}	$V_{DS}=3V \quad I_D=0.1mA$	0.5	-	1.5	V
Forward Transfer Admittance		Y_s	$V_{DS}=3V \quad I_D=10mA$	20	-	-	mS
Drain-Source ON Resistance		$R_{DS(ON)}$	$I_D=10mA \quad V_{GS}=2.5V$	-	15	40	Ω
Input Capacitance		C_{iss}	$V_{DS}=3V, \quad V_{GS}=0V, \quad f=1MHz$	-	5.5	-	pF
Reverse Transfer Capacitance		C_{rss}	$V_{DS}=3V, \quad V_{GS}=0V, \quad f=1MHz$	-	1.6	-	pF
Output Capacitance		C_{oss}	$V_{DS}=3V, \quad V_{GS}=0V, \quad f=1MHz$	-	6.5	-	pF
Switching Time	Turn-on Time	t_{on}	$V_{DD}=3V, \quad I_D=10mA, \quad V_{GS}=0 \sim 2.5V$	-	140	-	nS
	Turn-off Time	t_{off}		-	140	-	nS

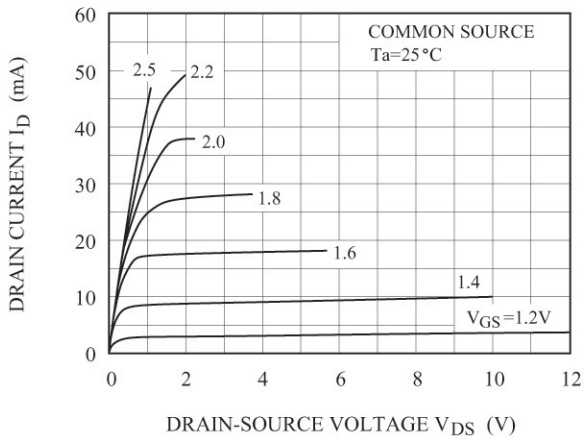


Marking

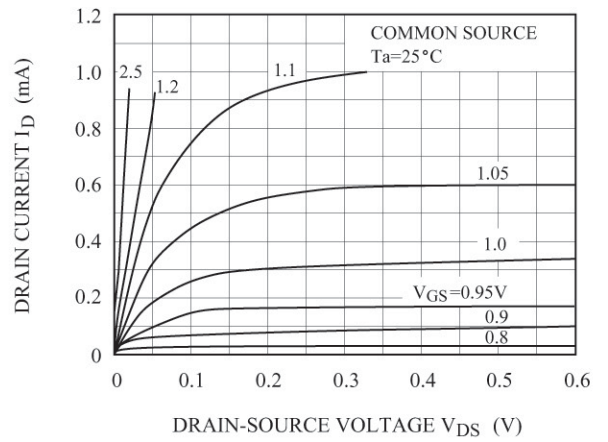


KTK5131V

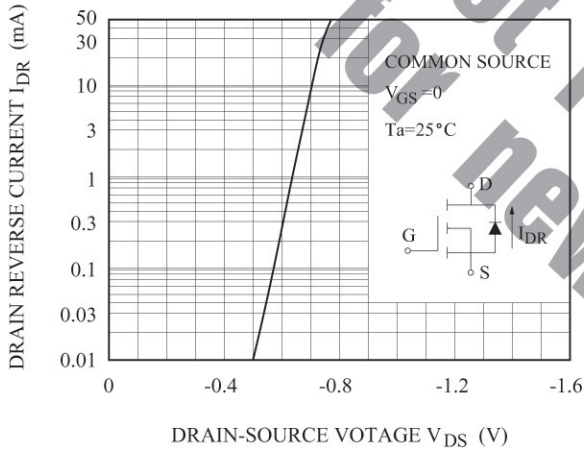
$I_D - V_{DS}$



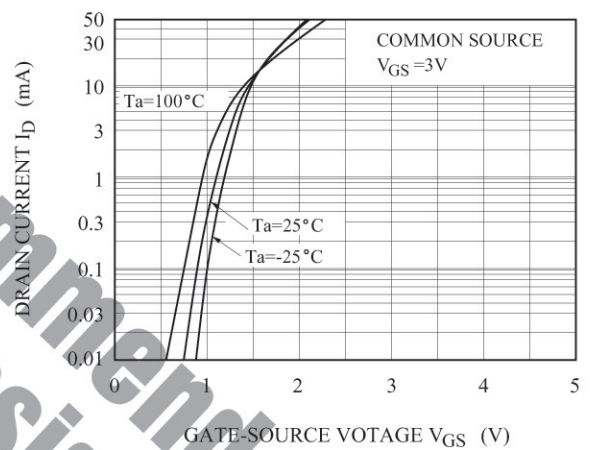
$I_D - V_{DS}$
(LOW VOLTAGE REGION)



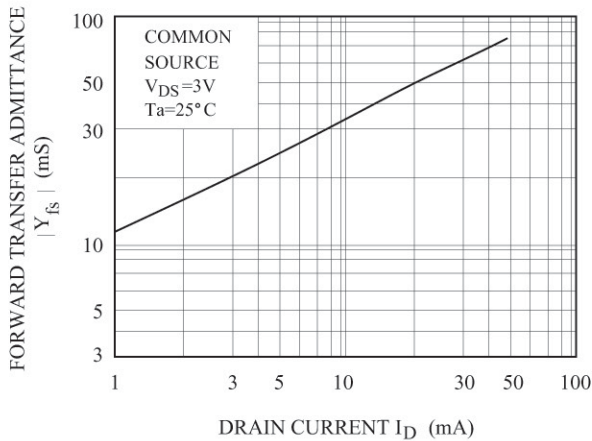
$I_{DR} - V_{DS}$



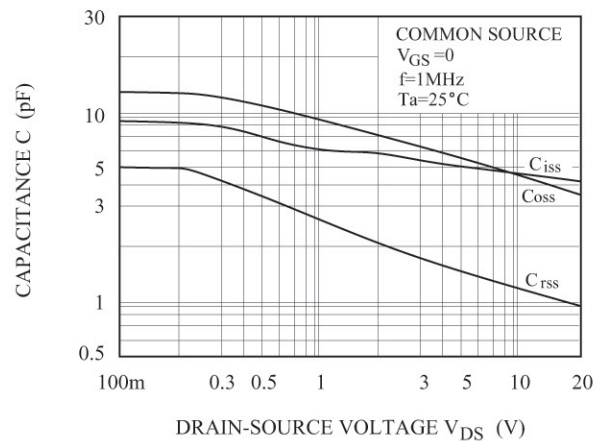
$I_D - V_{GS}$



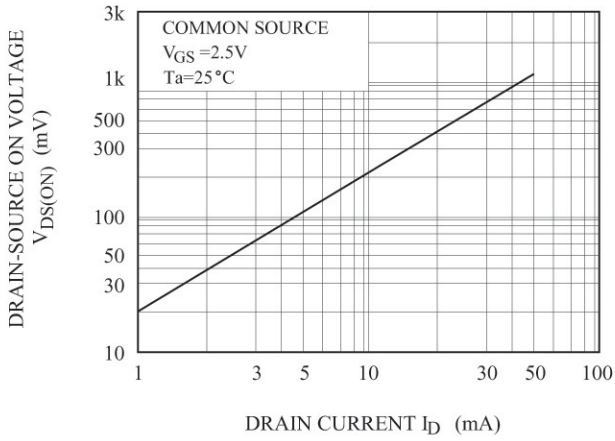
$|Y_{fs}| - I_D$



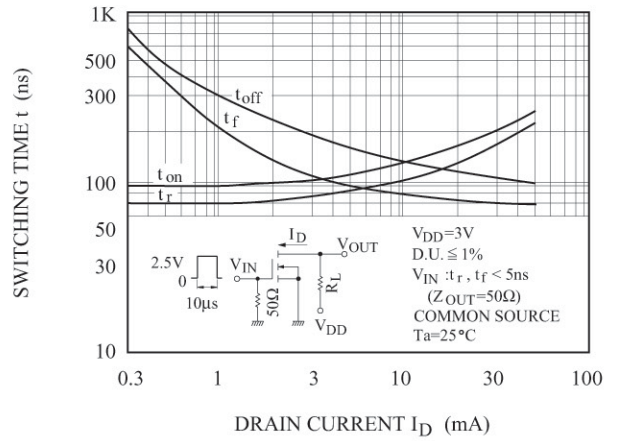
$C - V_{DS}$



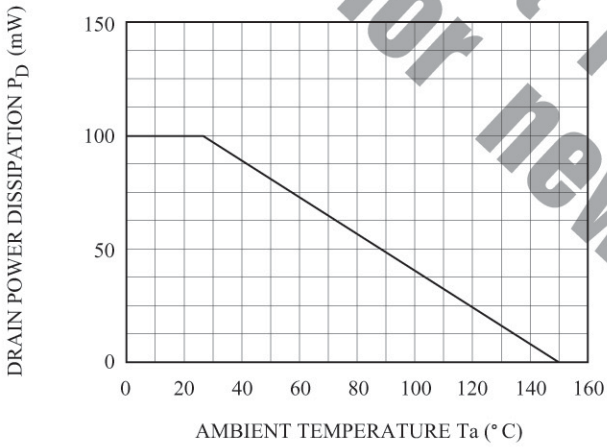
$V_{DS(ON)} - I_D$



$t - I_D$



$P_D - T_a$



Not recommend for new design

SWITCHING TIME TEST CIRCUIT

