

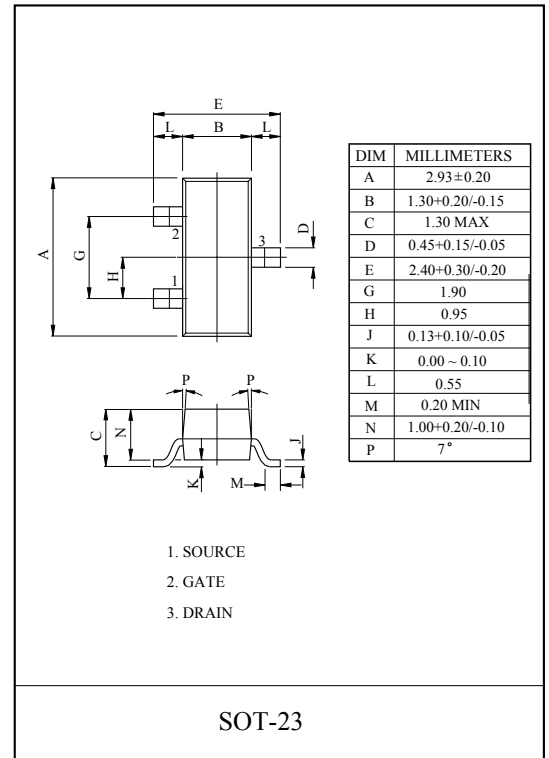
ULTRA-HIGH SPEED SWITCHING APPLICATIONS  
ANALOG SWITCH APPLICATIONS

### FEATURES

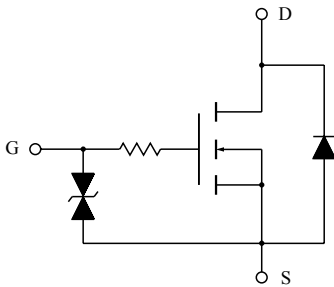
- 2.5 Gate Drive.
- Low Threshold Voltage :  $V_{th}=0.5 \sim 1.5V$ .
- High Speed.
- Small Package.
- Enhancement-Mode.

### MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	$V_{DS}$	30	V
Gate-Source Voltage	$V_{GSS}$	$\pm 20$	V
DC Drain Current	$I_D$	50	mA
Drain Power Dissipation	$P_D$	200	mW
Channel Temperature	$T_{ch}$	150	°C
Storage Temperature Range	$T_{stg}$	-55 ~ 150	°C

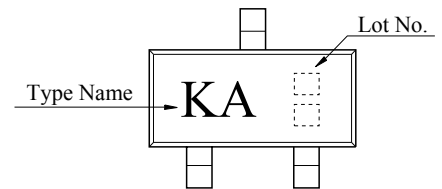


### EQUIVALENT CIRCUIT



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

### Marking

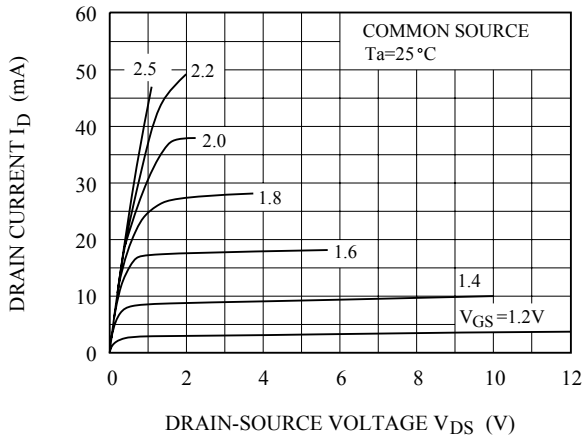


### ELECTRICAL CHARACTERISTICS (Ta=25°C)

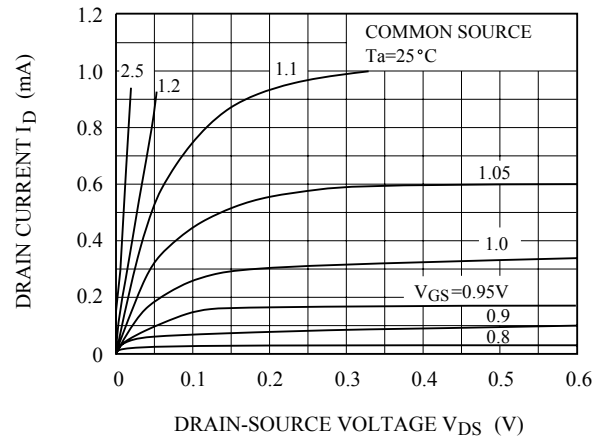
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		$I_{GSS}$	$V_{GS}=\pm 16V, V_{DS}=0V$	-	-	$\pm 1$	$\mu A$
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	$I_D=100\mu A, V_{GS}=0V$	30	-	-	V
Drain Cut-off Current		$I_{DSS}$	$V_{DS}=30V, V_{GS}=0V$	-	-	1	$\mu A$
Gate Threshold Voltage		$V_{th}$	$V_{DS}=3V, I_D=0.1mA$	0.5	-	1.5	V
Forward Transfer Admittance		$ Y_{fs} $	$V_{DS}=3V, I_D=10mA$	20	-	-	mS
Drain-Source ON Resistance		$R_{DS(ON)}$	$I_D=10mA, V_{GS}=2.5V$	-	15	40	$\Omega$
Input Capacitance		$C_{iss}$	$V_{DS}=3V, V_{GS}=0V, f=1MHz$	-	5.5	-	pF
Reverse Transfer Capacitance		$C_{rss}$	$V_{DS}=3V, V_{GS}=0V, f=1MHz$	-	1.6	-	pF
Output Capacitance		$C_{oss}$	$V_{DS}=3V, V_{GS}=0V, f=1MHz$	-	6.5	-	pF
Switching Time	Turn-on Time	$t_{on}$	$V_{DD}=3V, I_D=10mA, V_{GS}=0 \sim 2.5V$	-	140	-	nS
	Turn-off Time	$t_{off}$		-	140	-	nS

# KTK5131S

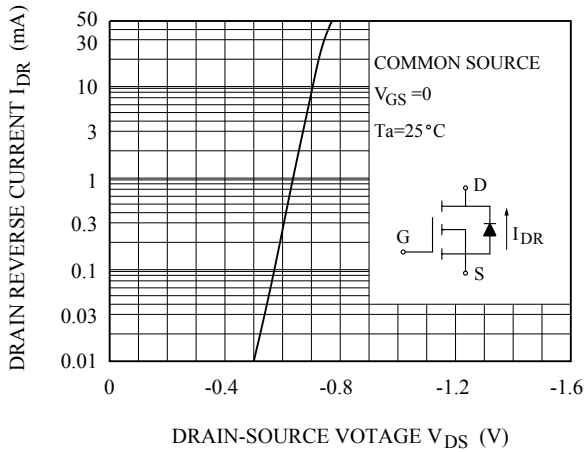
$I_D - V_{DS}$



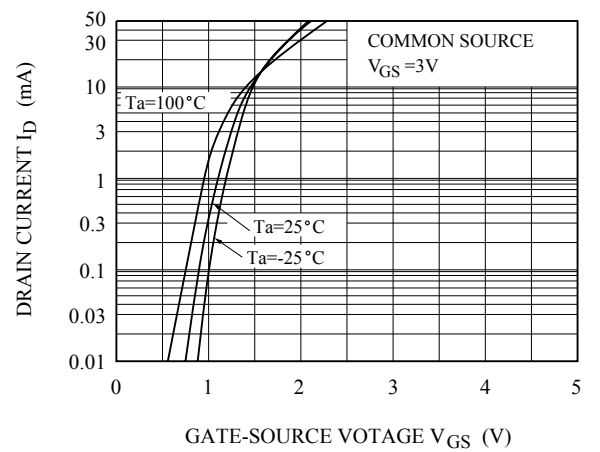
$I_D - V_{DS}$   
(LOW VOLTAGE REGION)



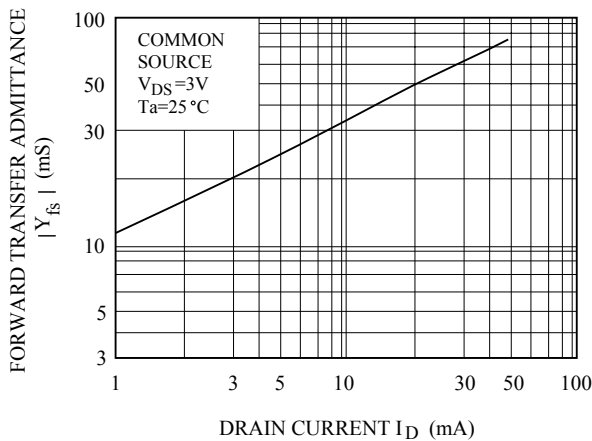
$I_{DR} - V_{DS}$



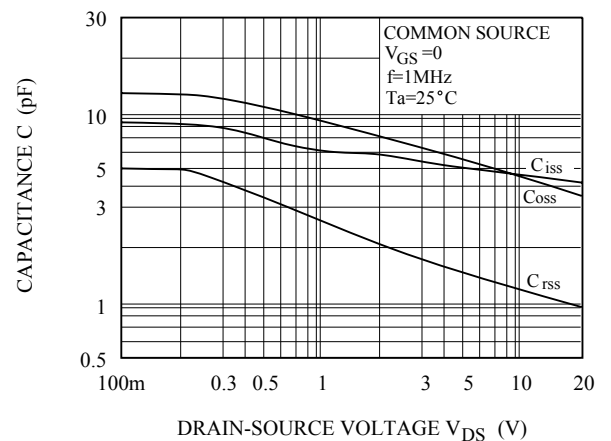
$I_D - V_{GS}$



$|Y_{fs}| - I_D$

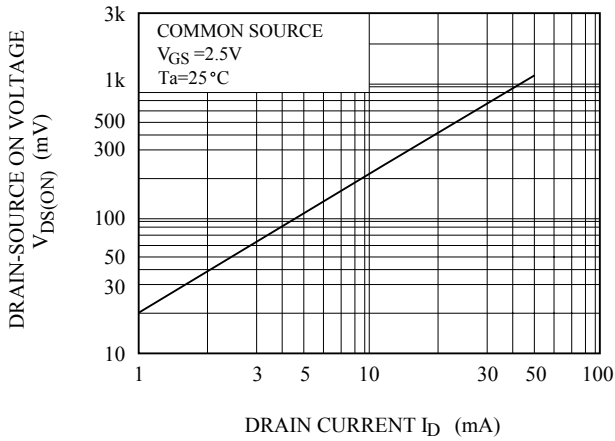


$C - V_{DS}$

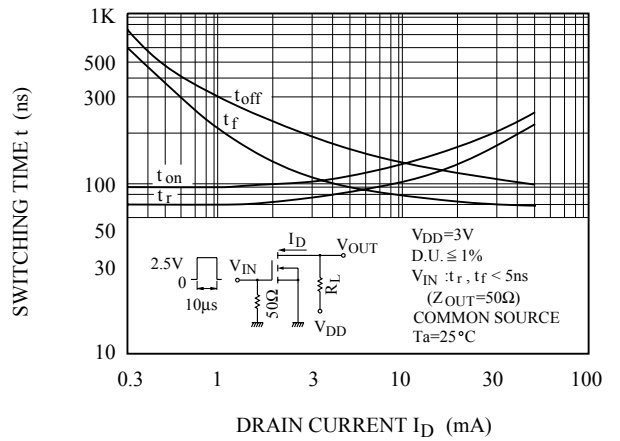


# KTK5131S

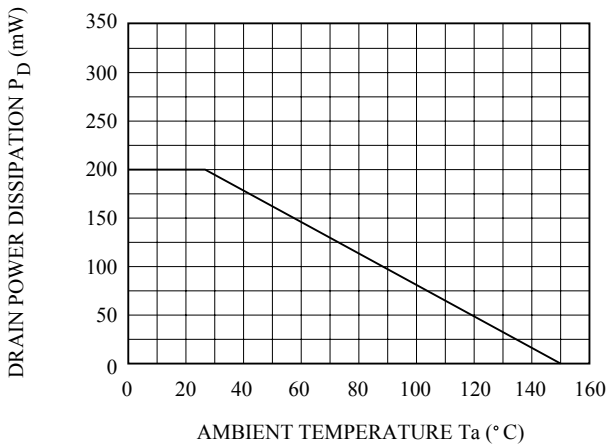
$V_{DS(ON)} - I_D$



$t - I_D$



$P_D - T_a$



## SWITCHING TIME TEST CIRCUIT

