

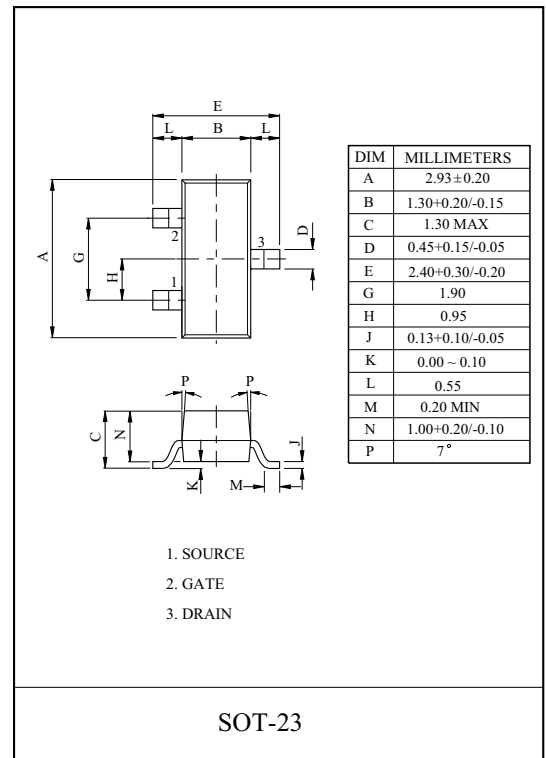
ULTRA-HIGH SPEED SWITCHING APPLICATIONS  
ANALOG SWITCH APPLICATIONS

#### FEATURES

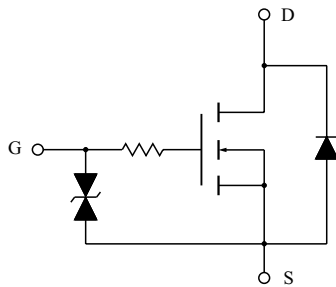
- 2.5 Gate Drive.
- Low Threshold Voltage :  $V_{th}=0.5 \sim 1.5V$ .
- High Speed.
- Small Package.
- Enhancement-Mode.

#### MAXIMUM RATINGS (Ta=25 °C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	$V_{DS}$	60	V
Gate-Source Voltage	$V_{GSS}$	$\pm 20$	V
DC Drain Current	$I_D$	200	mA
Drain Power Dissipation	$P_D$	200	mW
Channel Temperature	$T_{ch}$	150	°C
Storage Temperature Range	$T_{stg}$	-55 ~ 150	°C

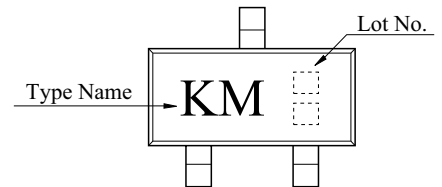


#### EQUIVALENT CIRCUIT



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

#### Marking



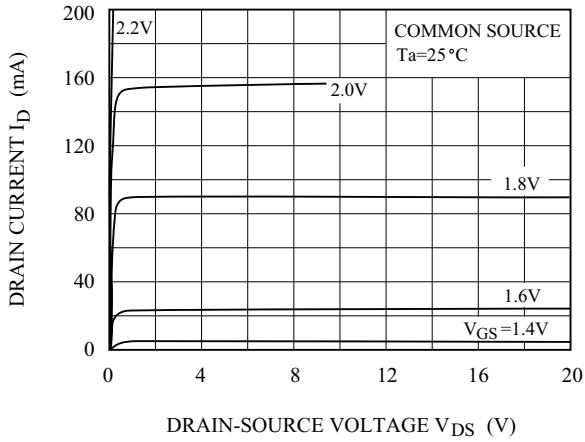
#### ELECTRICAL CHARACTERISTICS (Ta=25 °C)

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	$V_{(BR)DSS}$	$I_D = 100\mu A, V_{GS} = 0V$	60	-	-	V
Drain Cut-off Current	$I_{DSS}$	$V_{DS} = 60V, V_{GS} = 0V$	-	-	1	$\mu A$
Gate Threshold Voltage	$V_{th}$	$V_{DS} = 10V, I_D = 1mA$	0.5	-	1.5	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 10V, I_D = 50mA$	100	-	-	mS
Drain-Source ON Resistance	$R_{DS(ON)}$	$I_D = 50mA, V_{GS} = 2.5V$	-	1.5	2	$\Omega$
Input Capacitance	$C_{iss}$	$V_{DS} = 10V, V_{GS} = 0V, f = 1MHz$	-	55	65	pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS} = 10V, V_{GS} = 0V, f = 1MHz$	-	13	18	pF
Output Capacitance	$C_{oss}$	$V_{DS} = 10V, V_{GS} = 0V, f = 1MHz$	-	40	50	pF
Switching Time	Rise Time	$t_r$	-	8	-	nS
	Turn-on Time	$t_{on}$	-	14	-	
	Fall Time	$t_f$	-	35	-	
	Turn-off Time	$t_{off}$	-	75	-	

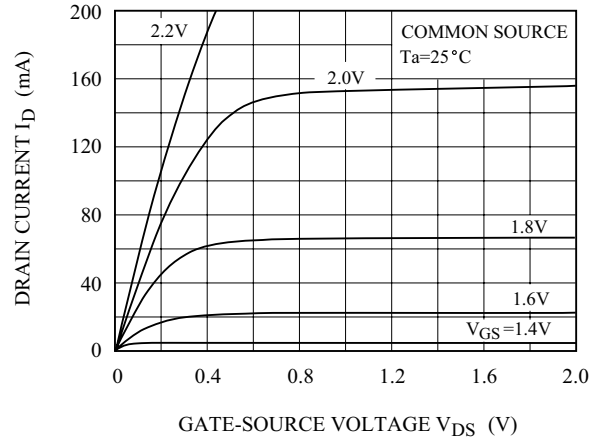
$V_{IN} : t_r, t_f < 5ns$   
 $D.U. \leq 1\% (Z_{OUT} = 50\Omega)$

# KTK5164S

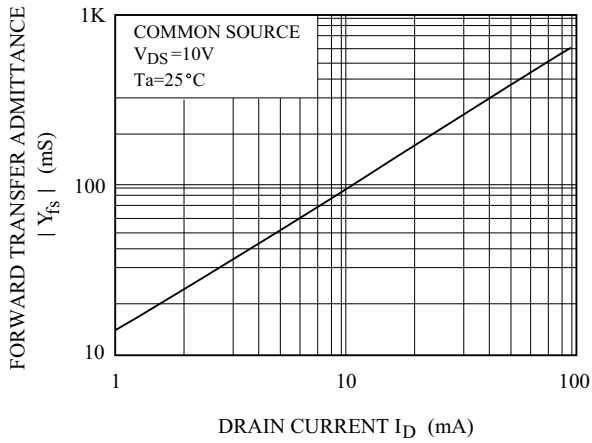
$I_D - V_{DS}$



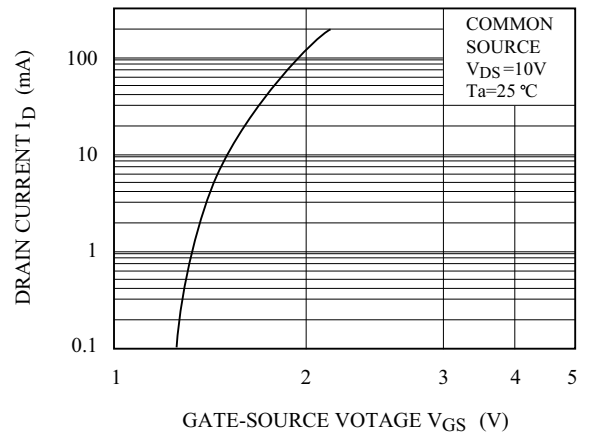
$I_D - V_{DS}$   
(LOW VOLTAGE REGION)



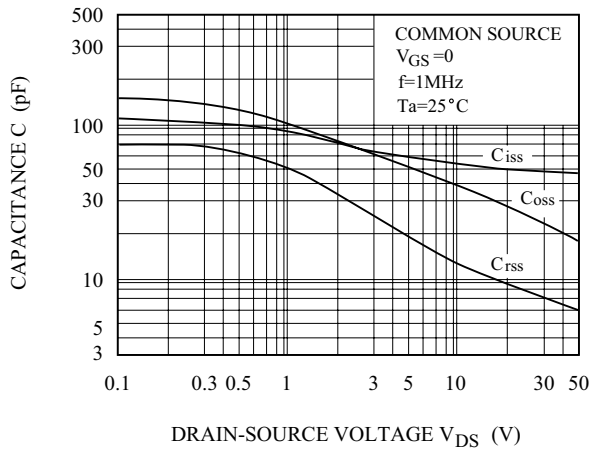
$|Y_{fs}| - I_D$



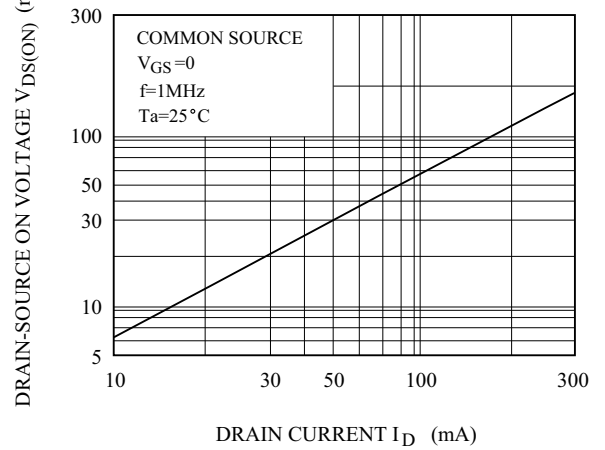
$I_D - V_{GS}$



$C - V_{DS}$



$V_{DS(ON)} - I_D$



# KTK5164S

