

ULTRA-HIGH SPEED SWITCHING APPLICATIONS
ANALOG SWITCH APPLICATIONS

FEATURES

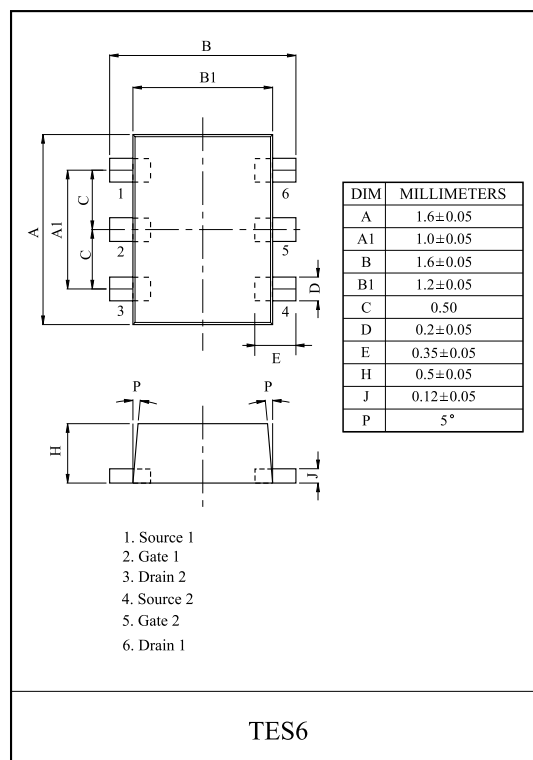
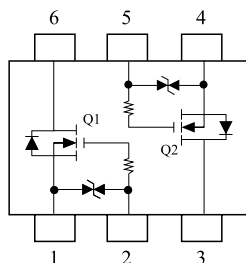
- 2.5 Gate Drive.
- Low Threshold Voltage : $V_{th}=0.5 \sim 1.5V$.
- High Speed.
- Small Package.
- Enhancement-Mode.

MAXIMUM RATING (Ta=25 °C)

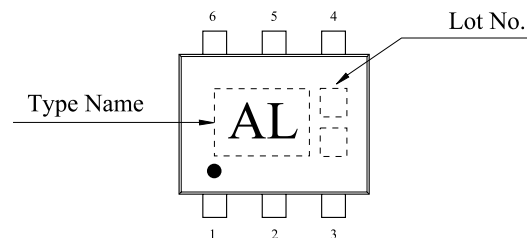
CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	V_{DSS}	30	V
Gate-Source Voltage	V_{GSS}	± 20	V
DC Drain Current	I_D	100	mA
Drain Power Dissipation	P_D^*	200	mW
Channel Temperature	T_{ch}	150	
Storage Temperature Range	T_{stg}	-55 ~ 150	

Note) *Total Rating, Surface Mounted on 1 × 1 FR4 Board.

EQUIVALENT CIRCUIT



Marking

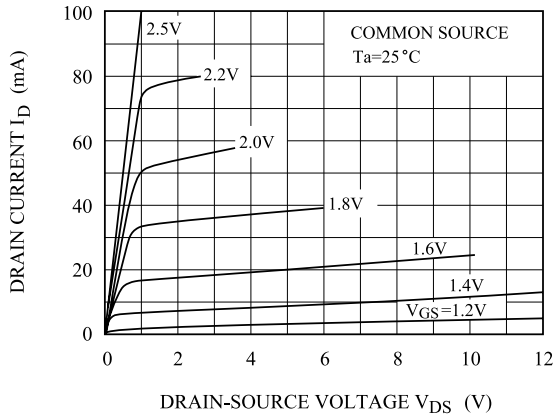


ELECTRICAL CHARACTERISTICS (Ta=25 °C)

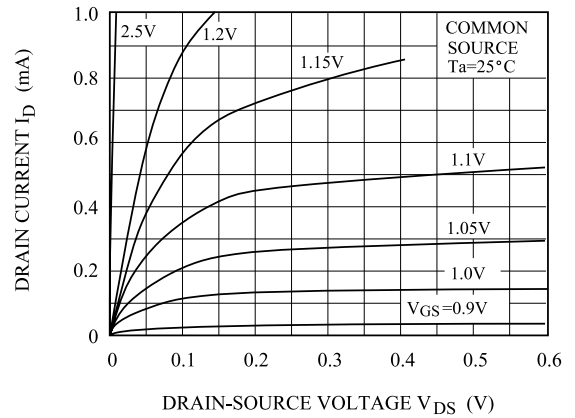
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current	I_{GSS}	$V_{GS} = \pm 16V, V_{DS} = 0V$	-	-	± 1	μA
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 100 \mu A, V_{GS} = 0V$	30	-	-	V
Drain Cut-off Current	I_{DSS}	$V_{DS} = 30V, V_{GS} = 0V$	-	-	1	μA
Gate Threshold Voltage	V_{th}	$V_{DS} = 3V, I_D = 0.1mA$	0.5	-	1.5	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 3V, I_D = 10mA$	25	-	-	mS
Drain-Source ON Resistance	$R_{DS(ON)}$	$I_D = 10mA, V_{GS} = 2.5V$	-	4	7	Ω
Input Capacitance	C_{iss}	$V_{DS} = 3V, V_{GS} = 0V, f = 1MHz$	-	8.5	-	pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 3V, V_{GS} = 0V, f = 1MHz$	-	3.3	-	pF
Output Capacitance	C_{oss}	$V_{DS} = 3V, V_{GS} = 0V, f = 1MHz$	-	9.3	-	pF
Switching Time	Turn-on Time	$V_{DD} = 5V, I_D = 10mA, V_{GS} = 0 \sim 5V$	-	50	-	nS
	Turn-off Time		-	180	-	nS

Q_1, Q_2 Common.

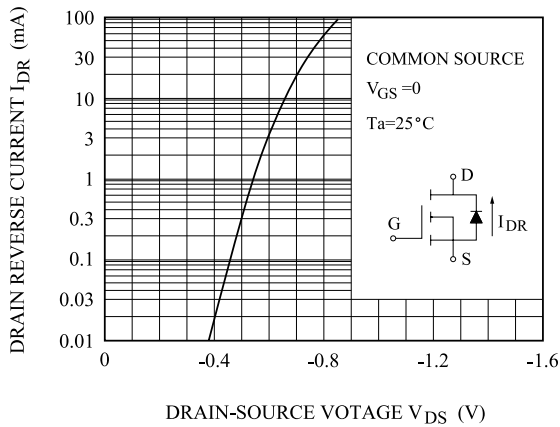
$I_D - V_{DS}$



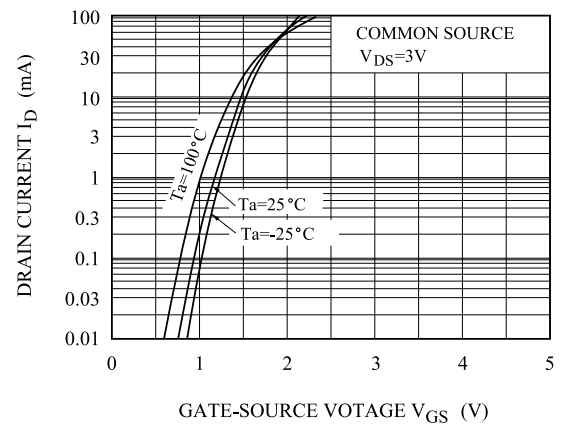
$I_D - V_{DS}$
(LOW VOLTAGE REGION)



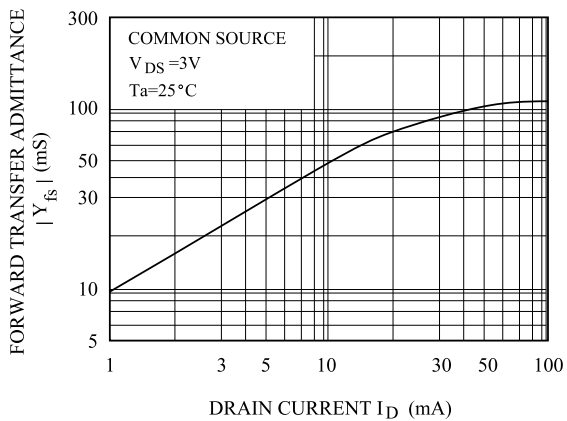
$I_{DR} - V_{DS}$



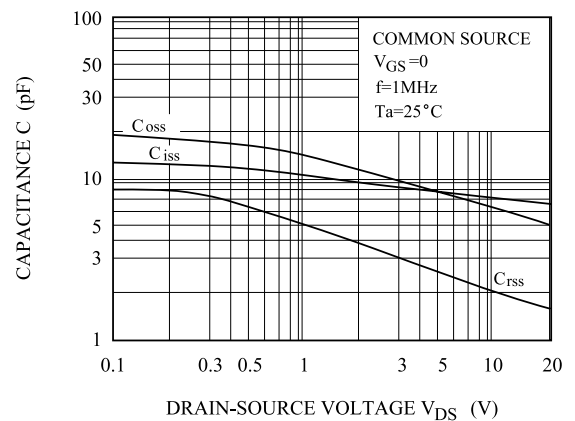
$I_D - V_{GS}$



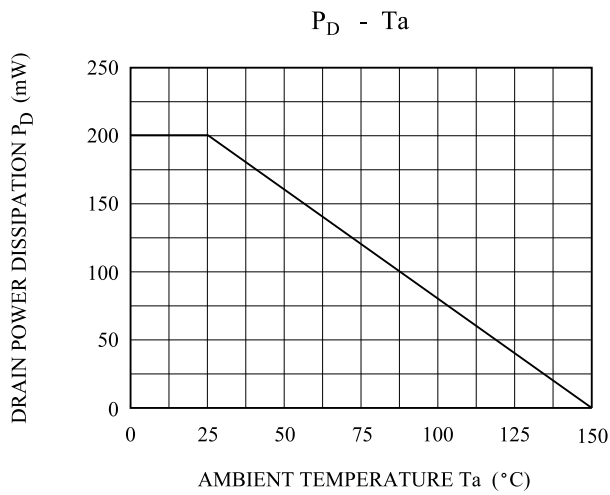
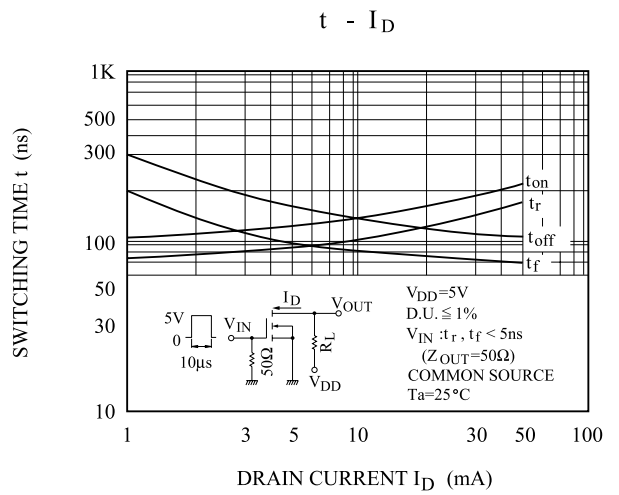
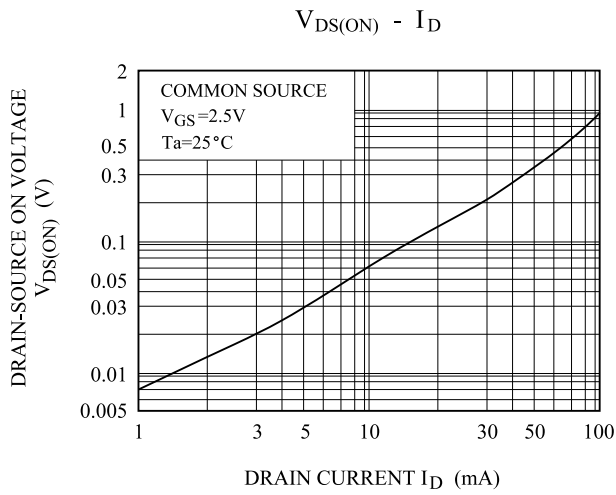
$|Y_{fs}| - I_D$



$C - V_{DS}$



KTK7132E



SWITCHING TIME TEST CIRCUIT

