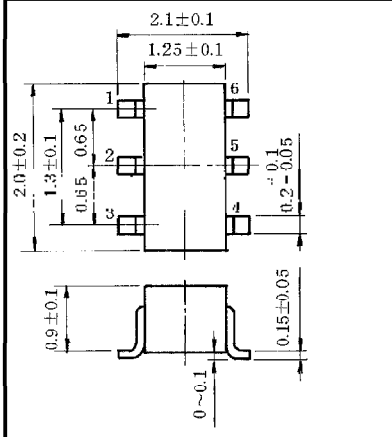
TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

HN1K02FU

HIGH SPEED SWITCHING APPLICATIONS

ANALOG SWITCH APPLICATIONS

Unit in mm



US6	
JEDEC	—
EIAJ	—
TOSHIBA	2-2J1C

Weight : 6.8mg

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

MAXIMUM RATINGS (Ta = 25°C) (Q1, Q2 COMMON)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GSS}	10	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

* Total Rating

961001EAA2

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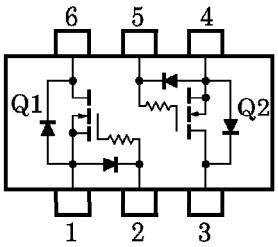
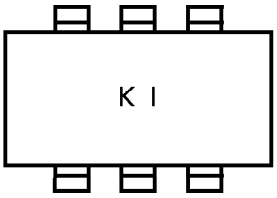
ELECTRICAL CHARACTERISTICS (Ta = 25°C) (Q1, Q2 COMMON)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I_{GSS}	$V_{GS}=10V$, $V_{DS}=0$	—	—	1	μA
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	$I_D=100\mu A$, $V_{GS}=0$	20	—	—	V
Drain Cut-off Current		I_{DSS}	$V_{DS}=20V$, $V_{GS}=0$	—	—	1	μA
Gate Threshold Voltage		V_{th}	$V_{DS}=3V$, $I_D=0.1mA$	0.5	—	1.5	V
Forward Transfer Admittance		$\|Y_{fs}\|$	$V_{DS}=3V$, $I_D=10mA$	20	—	—	mS
Drain-Source ON Resistance		$R_{DS(ON)}$	$I_D=10mA$, $V_{GS}=2.5V$	—	20	40	Ω
Input Capacitance		C_{iss}	$V_{DS}=3V$, $V_{GS}=0$, f=1MHz	—	5.5	—	pF
Reverse Transfer Capacitance		C_{rss}	$V_{DS}=3V$, $V_{GS}=0$, f=1MHz	—	1.6	—	pF
Output Capacitance		C_{oss}	$V_{DS}=3V$, $V_{GS}=0$, f=1MHz	—	6.5	—	pF
Switching Time	Turn-on Time	t_{on}	$V_{DD}=3V$, $I_D=10mA$, $V_{GS}=0\sim2.5V$	—	0.14	—	μs
	Turn-off Time	t_{off}	$V_{DD}=3V$, $I_D=10mA$, $V_{GS}=0\sim2.5V$	—	0.14	—	μs

EQUIVALENT CIRCUIT (TOP VIEW)

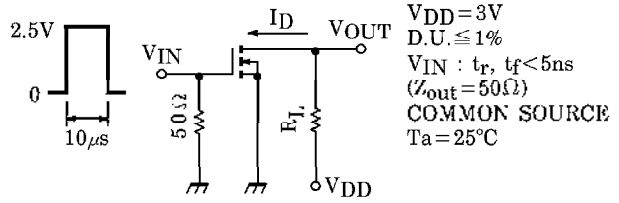


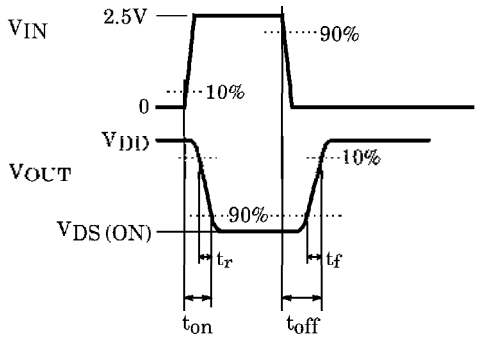
MARKING

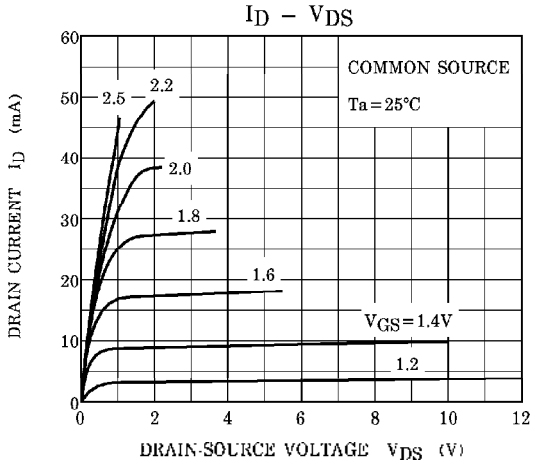


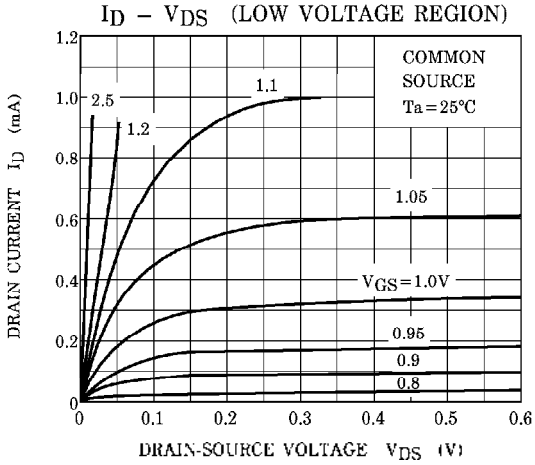
(Q1, Q2 COMMON)

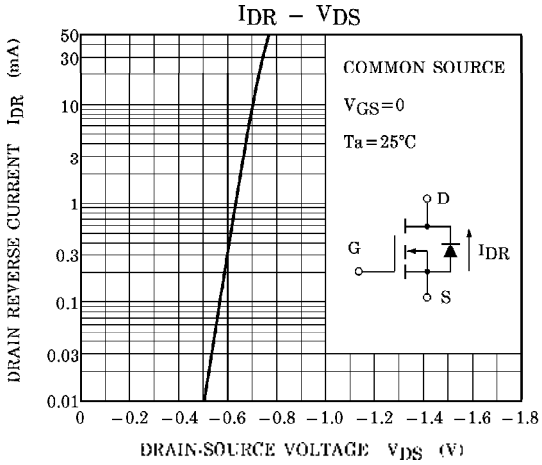
SWITCHING TIME TEST CIRCUIT

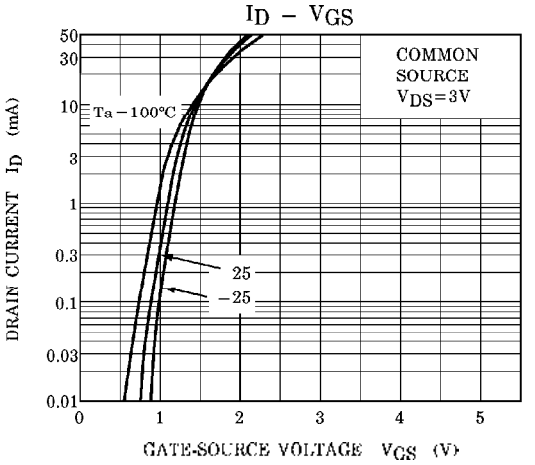




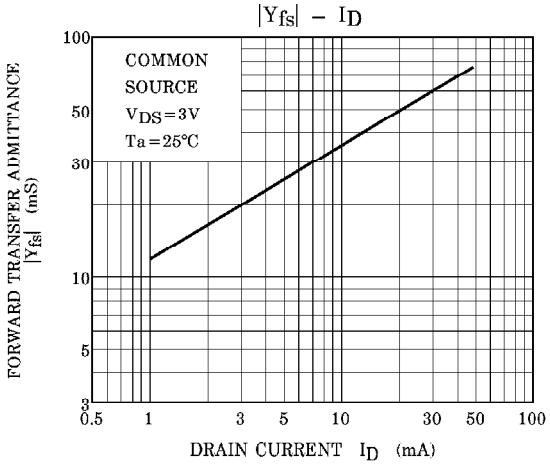


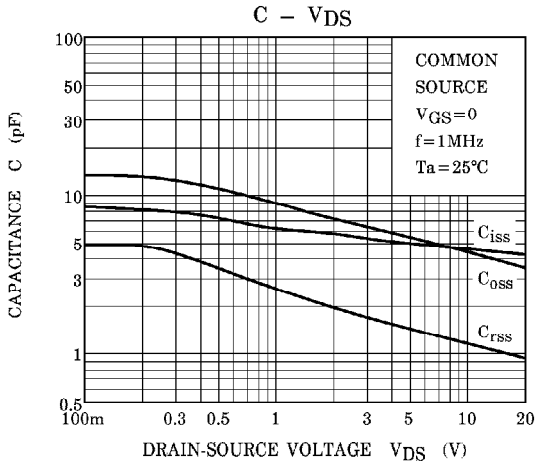


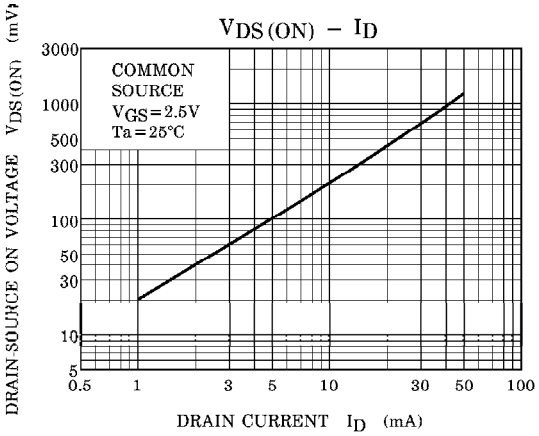


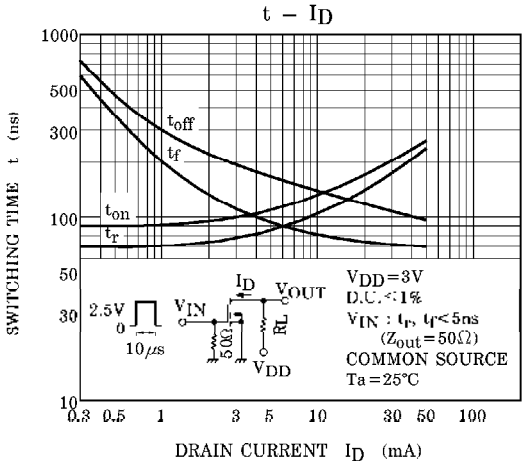


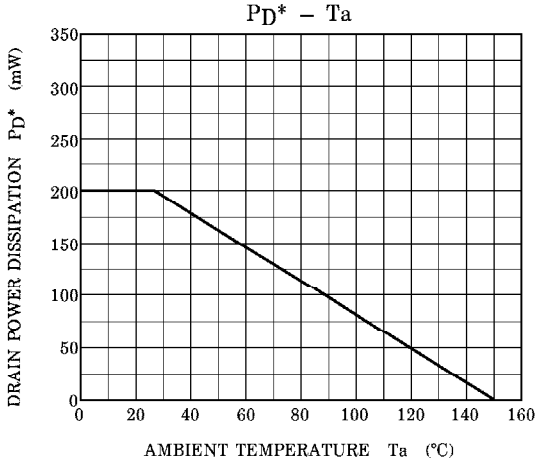
(Q1, Q2 COMMON)











* : Total Rating