

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

HN1K03FU

HIGH SPEED SWITCHING APPLICATIONS.

ANALOG SWITCH APPLICATIONS.

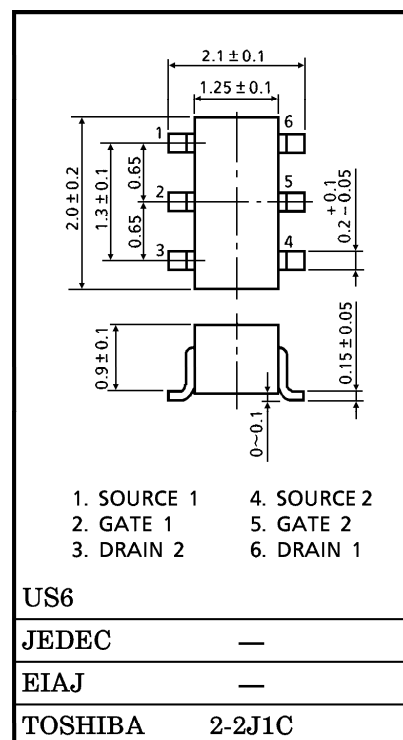
Unit in mm

- High Input Impedance
- Low Gate Threshold Voltage : $V_{th} = 0.5 \sim 1.5 \text{ V}$
- Excellent Switching Times : $t_{on} = 0.16 \mu\text{s}$ (typ.)
 $t_{off} = 0.15 \mu\text{s}$ (typ.)
- Small Package
- Enhancement-Mode

MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$) (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	100	mA
Drain Power Dissipation	P_D^*	200	mW
Channel Temperature	T_{ch}	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	$-55 \sim 150$	$^\circ\text{C}$

* : Total Rating



Weight : 6.8 mg

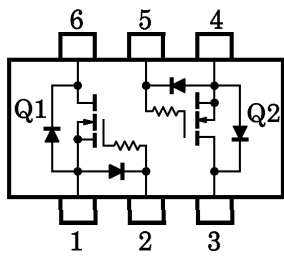
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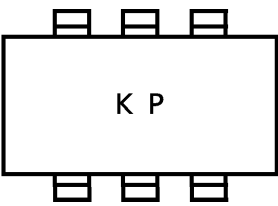
ELECTRICAL CHARACTERISTICS (Ta = 25°C) (Q1, Q2 COMMON)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		IGSS	VGS = 10 V, VDS = 0	—	—	1	μA
Drain-Source Breakdown Voltage		V(BR)DSS	ID = 100 μA, VGS = 0	20	—	—	V
Drain Cut-off Current		IDSS	VDS = 20 V, VGS = 0	—	—	1	μA
Gate Threshold Voltage		Vth	VDS = 3 V, ID = 0.1 mA	0.5	—	1.5	V
Forward Transfer Admittance		Yfs	VDS = 3 V, ID = 10 mA	25	50	—	mS
Drain-Source ON Resistance		RDS(ON)	ID = 10 mA, VGS = 2.5 V	—	8	12	Ω
Input Capacitance		Ciss	VDS = 3 V, VGS = 0, f = 1 MHz	—	8.5	—	pF
Reverse Transfer Capacitance		Crss	VDS = 3 V, VGS = 0, f = 1 MHz	—	3.3	—	pF
Output Capacitance		Coss	VDS = 3 V, VGS = 0, f = 1 MHz	—	9.3	—	pF
Switching Time	Turn-on Time	ton	VDD = 3 V, ID = 10 mA VGS = 0~2.5 V	—	0.16	—	μs
	Turn-off Time	toff	VDD = 3 V, ID = 10 mA VGS = 0~2.5 V	—	0.15	—	μs

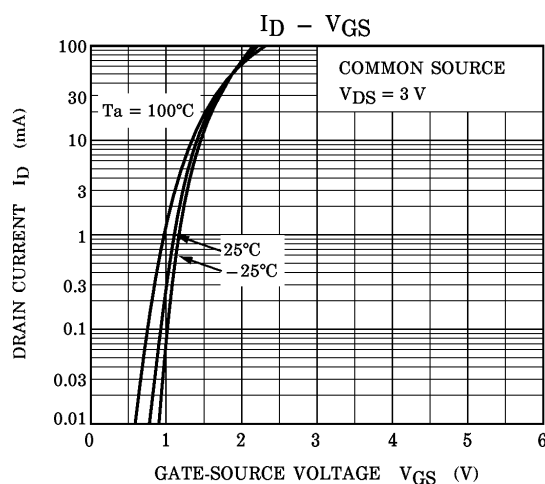
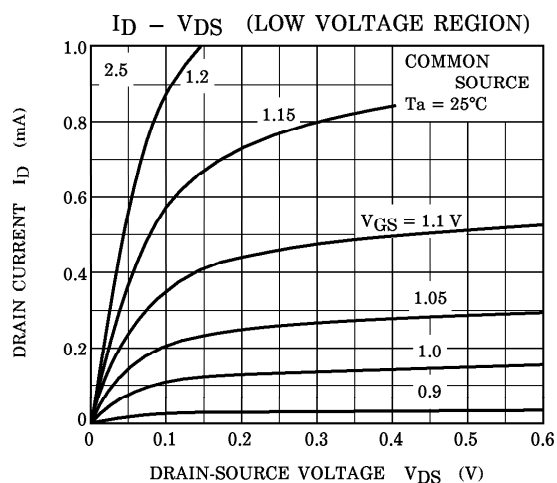
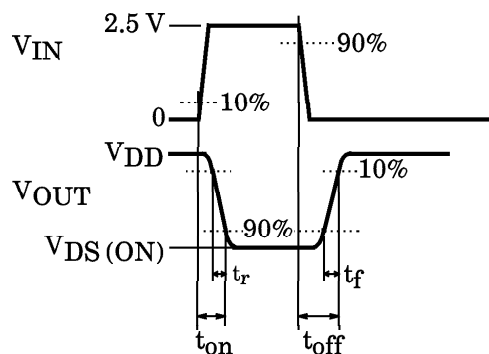
EQUIVALENT CIRCUIT (TOP VIEW)



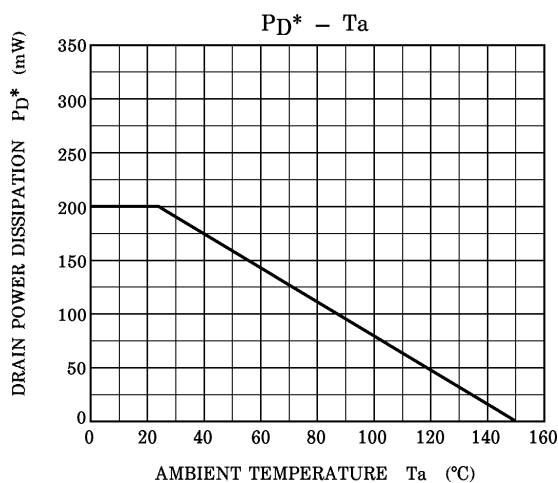
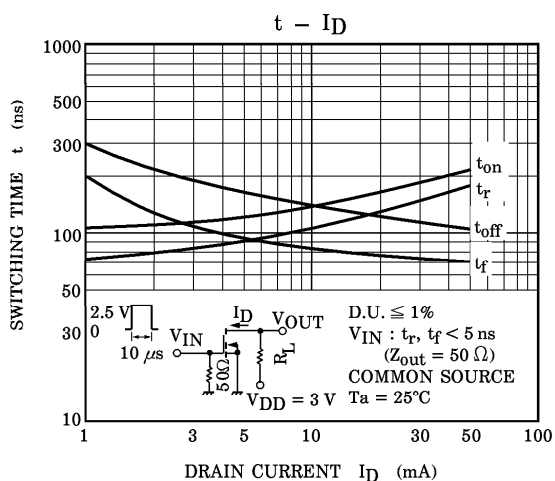
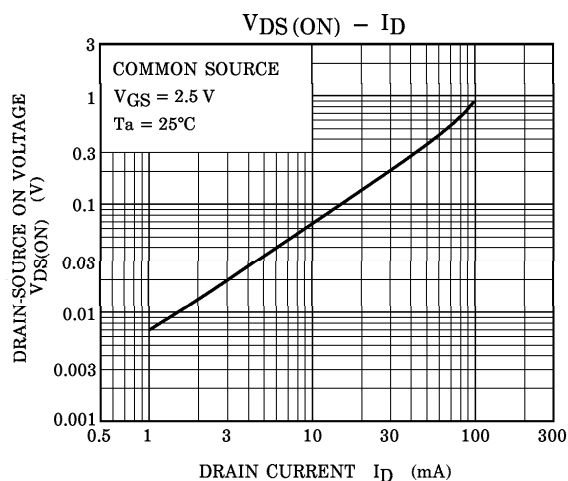
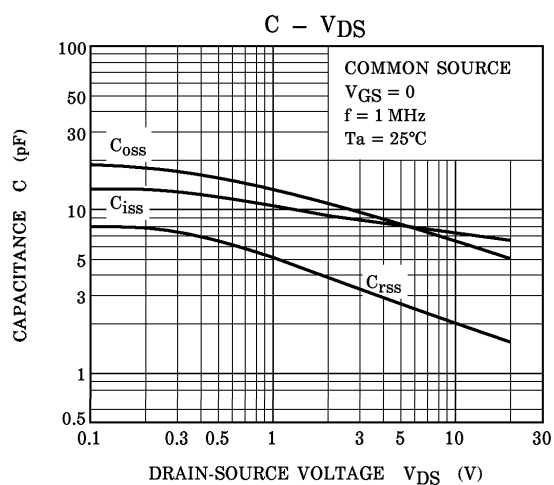
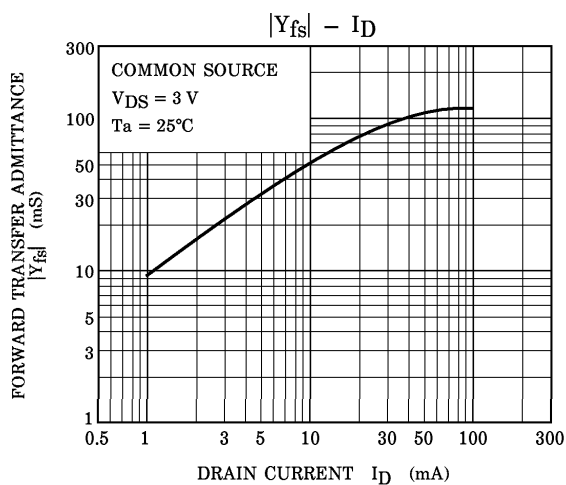
MARKING



SWITCHING TIME TEST CIRCUIT



(Q1, Q2 COMMON)



* : Total Rating