

TOSHIBA FIELD EFFECT TRANSISTOR SILICON P CHANNEL MOS TYPE

HN1J02FU

HIGH SPEED SWITCHING APPLICATIONS

Unit in mm

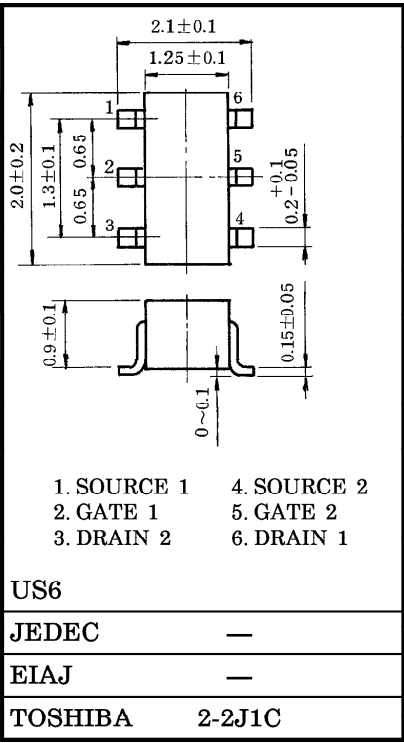
ANALOG SWITCH APPLICATIONS

- High Input Impedance
- Low Threshold Voltage : $V_{th} = -0.5 \sim -1.5V$
- High Speed
- 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}	-7	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



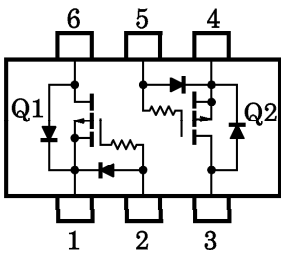
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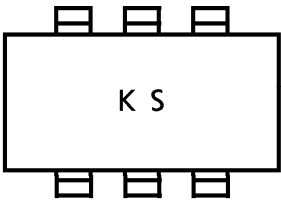
ELECTRICAL CHARACTERISTICS (Ta = 25°C) (Q1, Q2 COMMON)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		IGSS	VGS = -7V, VDS = 0	—	—	-1	μA
Drain-Source Breakdown Voltage		V(BR)DSS	ID = -100μA, VGS = 0	-20	—	—	V
Drain Cut-off Current		IDSS	VDS = -20V, VGS = 0	—	—	-1	μA
Gate Threshold Voltage		Vth	VDS = -3V, ID = -0.1mA	-0.5	—	-1.5	V
Forward Transfer Admittance		Yfs	VDS = -3V, ID = -10mA	15	—	—	mS
Drain-Source ON Resistance		RDS(ON)	ID = -10mA, VGS = -2.5V	—	20	40	Ω
Input Capacitance		Ciss	VDS = -3V, VGS = 0, f = 1MHz	—	10.4	—	pF
Reverse Transfer Capacitance		Crss	VDS = -3V, VGS = 0, f = 1MHz	—	2.8	—	pF
Output Capacitance		Coss	VDS = -3V, VGS = 0, f = 1MHz	—	8.4	—	pF
Switching Time	Turn-on Time	ton	VDD = -3V, ID = -10mA, VGS = 0 ~ -2.5V	—	0.15	—	μs
	Turn-off Time	toff	VDD = -3V, ID = -10mA, VGS = 0 ~ -2.5V	—	0.13	—	μs

EQUIVALENT CIRCUIT (TOP VIEW)

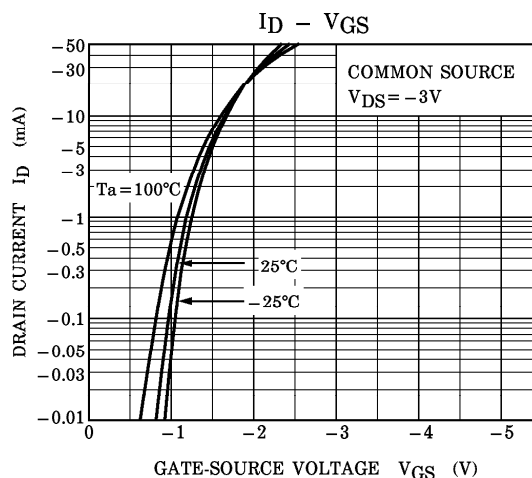
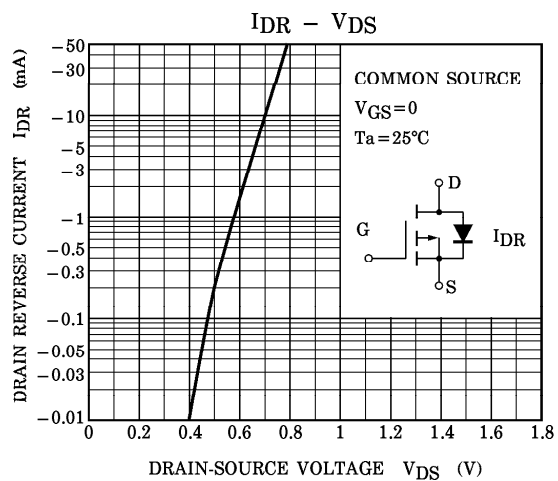
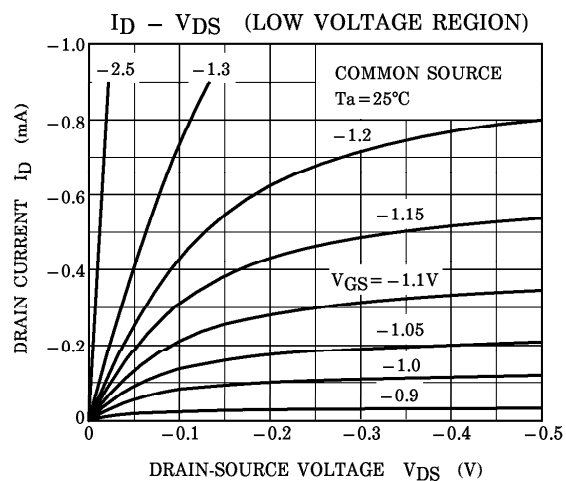
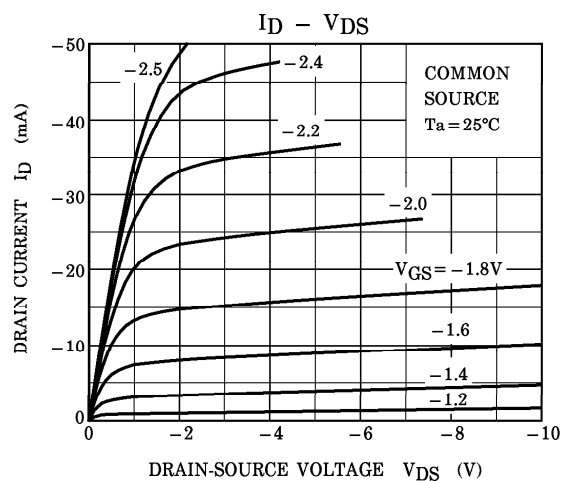
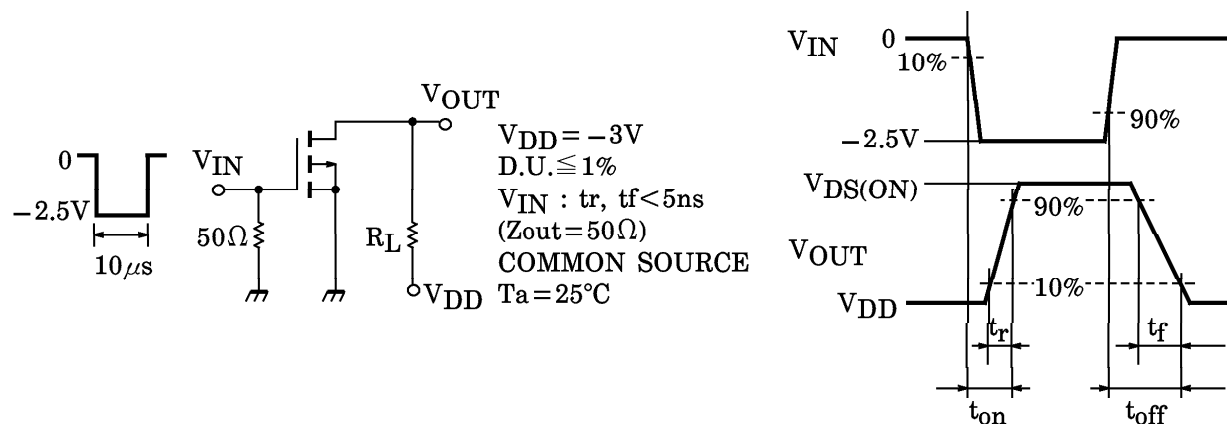


MARKING

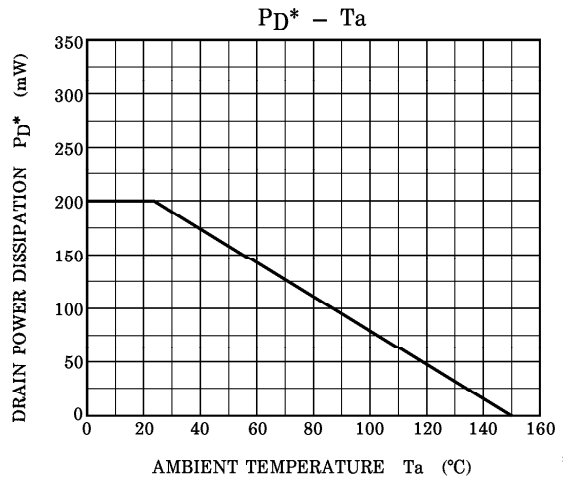
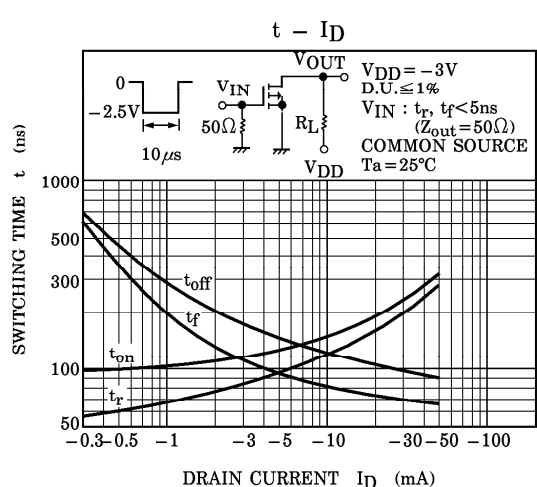
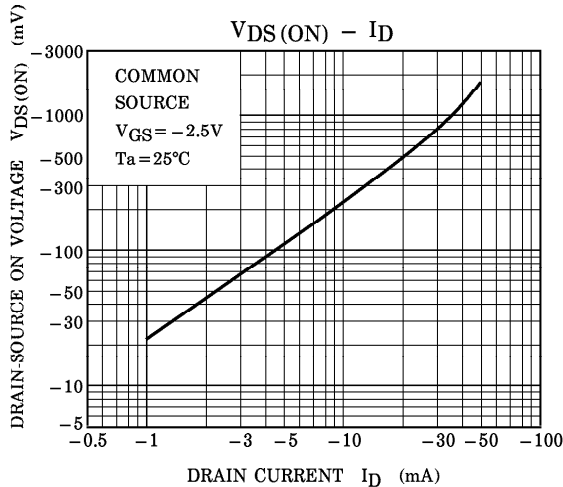
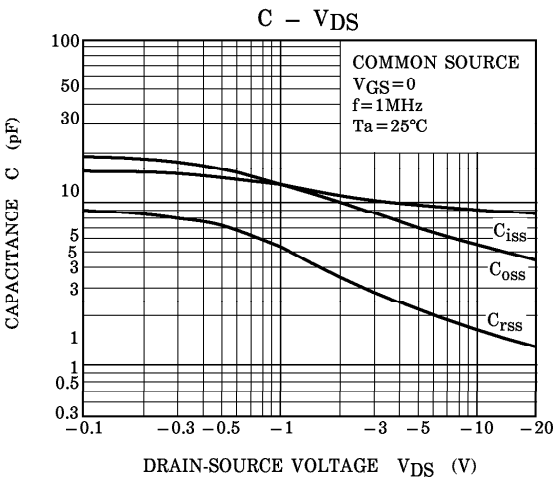
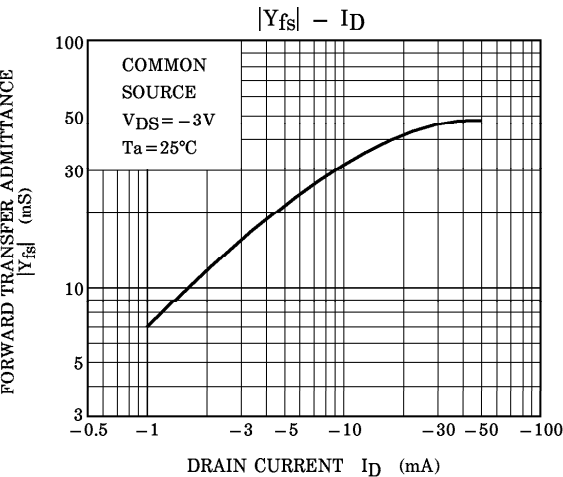


(Q1, Q2 COMMON)

SWITCHING TIME TEST CIRCUIT



(Q1, Q2 COMMON)



* : Total Rating