

# HN4K03JU

High Speed Switching Applications

Analog Switch Applications

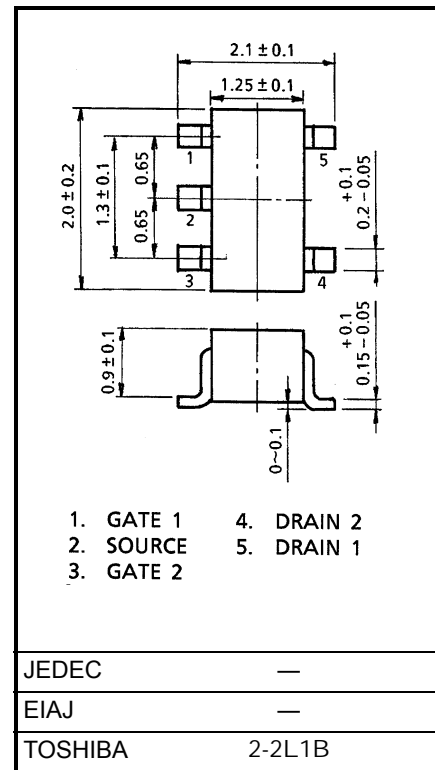
- High input impedance
- Low gate threshold voltage:  $V_{th} = 0.5 \sim 1.5V$
- Excellent switching times
- Small package

### Maximum Ratings ( $T_a = 25^\circ C$ ) (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	$^\circ C$
Storage temperature range	$T_{stg}$	$-55 \sim 150$	$^\circ C$

\* : Total rating

Unit in mm



Weight: 6.2mg

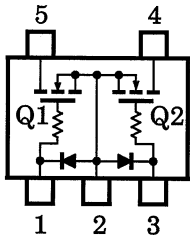
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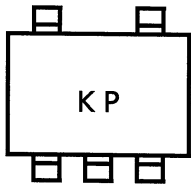
Electrical Characteristics (Ta = 25°C) (Q1, Q2 Common)

Characteristic		Symbol	Test Condition	Min.	Typ.	Max.	Unit
Gate leakage current		$I_{GSS}$	$V_{GS} = 10V, V_{DS} = 0$	—	—	1	$\mu A$
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	$\mu A$
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	50	—	mS
Drain-Source ON resistance		$R_{DS(ON)}$	$I_D = 10mA, V_{GS} = 2.5V$	—	8	12	$\Omega$
Input capacitance		$C_{iss}$	$V_{DS} = 3V, V_{GS} = 0, f = 1MHz$	—	8.5	—	pF
Reverse transfer capacitance		$C_{rss}$	$V_{DS} = 3V, V_{GS} = 0, f = 1MHz$	—	3.3	—	pF
Output capacitance		$C_{oss}$	$V_{DS} = 3V, V_{GS} = 0, f = 1MHz$	—	9.3	—	pF
Switching time	Turn-on time	$t_{on}$	$V_{DD} = 3V, I_D = 10mA$ $V_{GS} = 0 \sim 2.5V$	—	0.16	—	$\mu s$
	Turn-off time	$t_{off}$	$V_{DD} = 3V, I_D = 10mA$ $V_{GS} = 0 \sim 2.5V$	—	0.15	—	

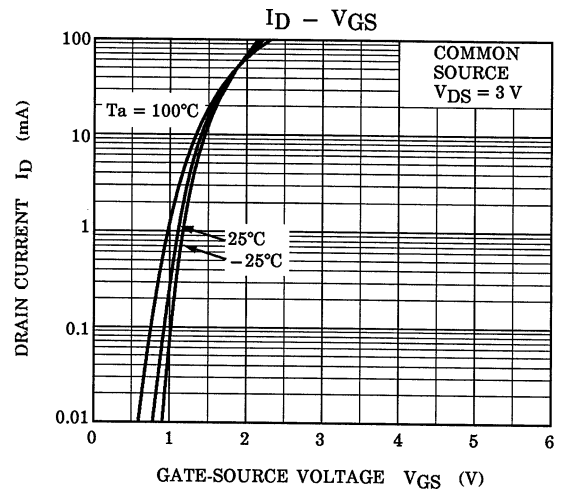
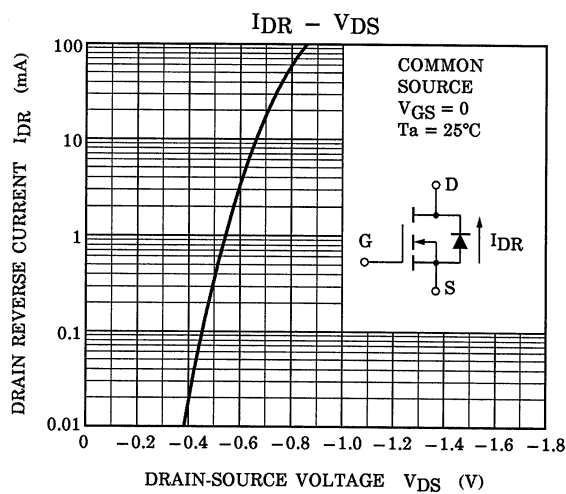
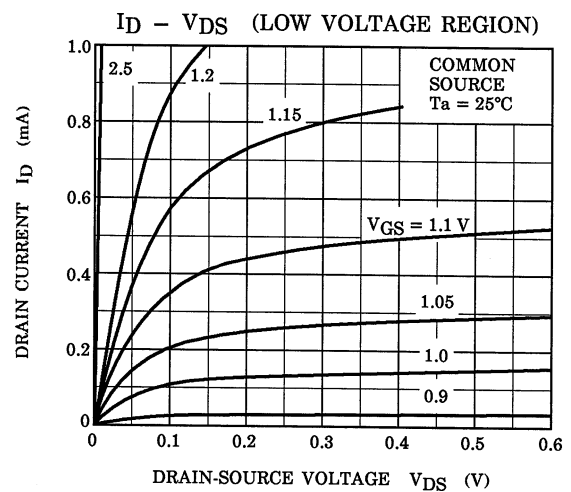
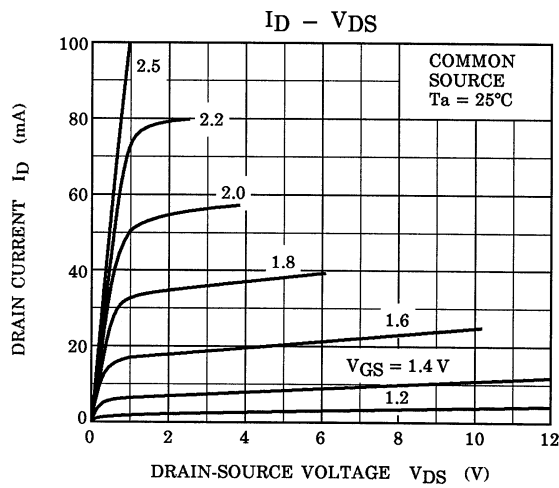
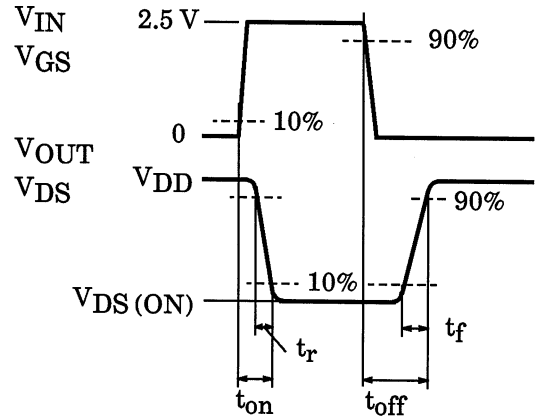
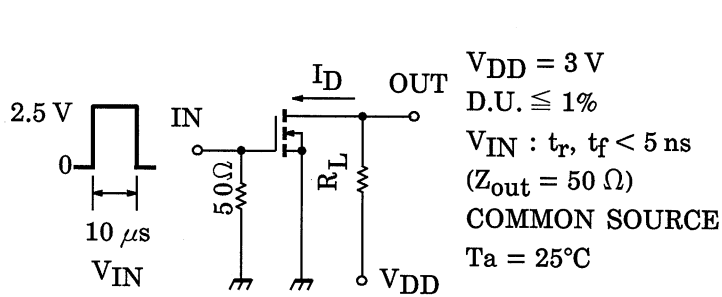
Equivalent Circuit (Top View)



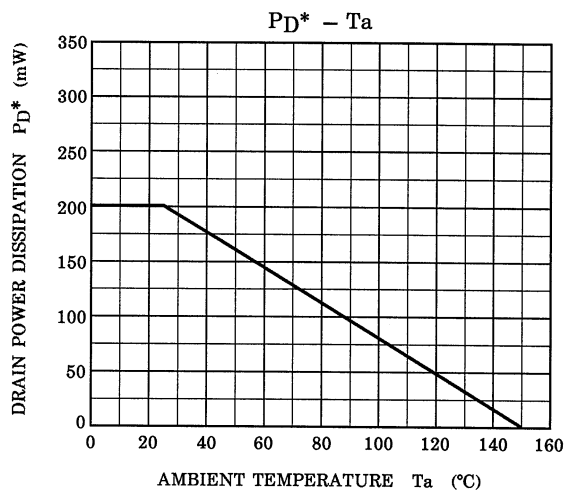
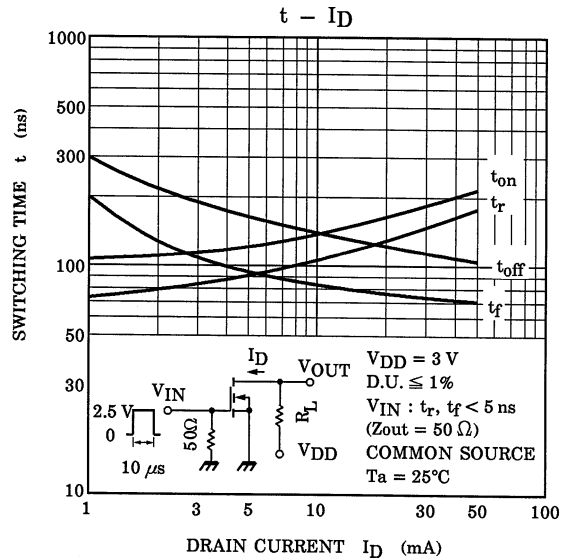
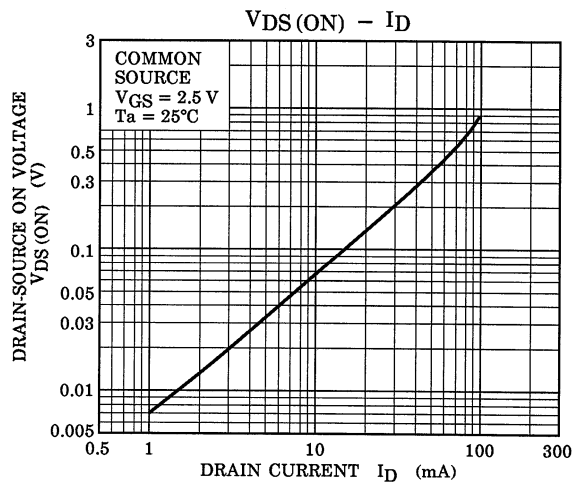
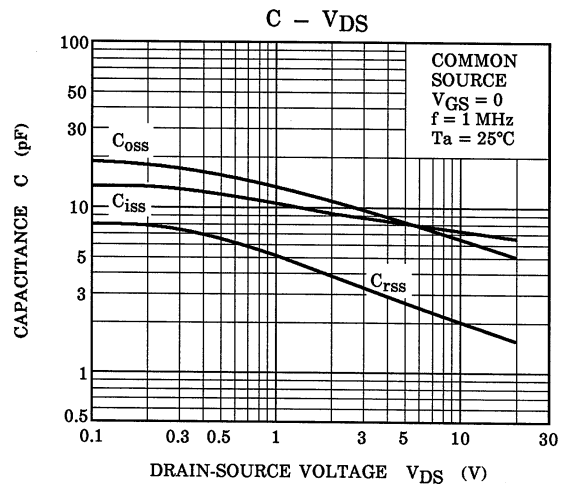
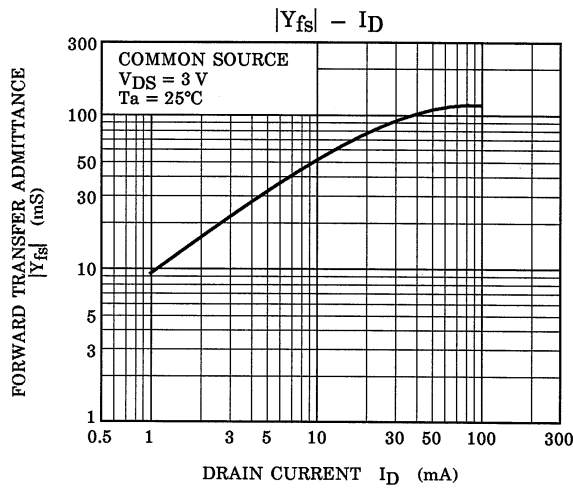
Marking



## (Q1, Q2 Common) Switching Time Test Circuit



(Q1, Q2 Common)



\* : Total Rating