

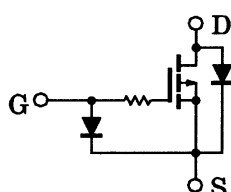
2SJ342

High Speed Switching Applications

Analog Switch Applications

- Low threshold voltage: $V_{th} = -0.8 \sim -2.5$ V
- High speed
- Enhancement-mode
- Small package
- Complementary to 2SK1825

Equivalent Circuit



Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Rating	Unit
Drain-source voltage	V_{DS}	-50	V
Gate-source voltage	V_{GSS}	-7	V
DC drain current	I_D	-50	mA
Drain power dissipation	P_D	300	mW
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55~150	$^\circ\text{C}$

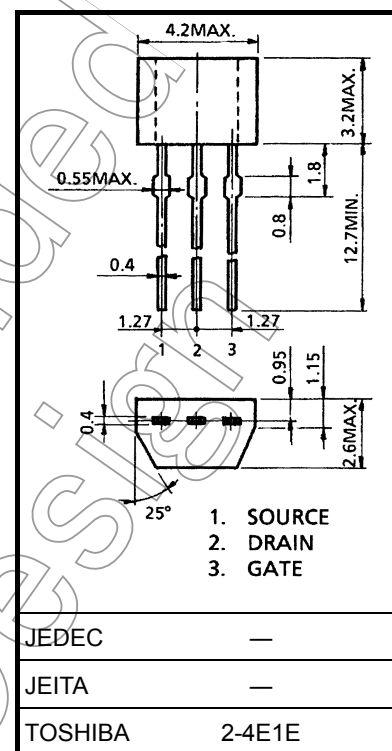
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Electrical Characteristics ($T_a = 25^\circ\text{C}$)

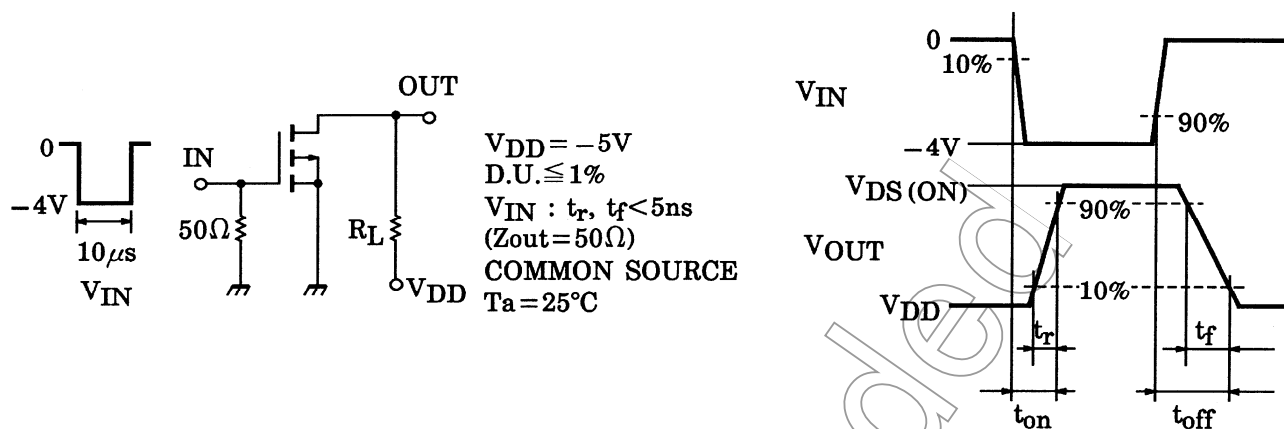
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current	I_{GSS}	$V_{GS} = -7$ V, $V_{DS} = 0$	—	—	-1	μA
Drain-source breakdown voltage	$V_{(BR)DSS}$	$I_D = -100$ μA , $V_{GS} = 0$	-50	—	—	V
Drain cut-off current	I_{DSS}	$V_{DS} = -50$ V, $V_{GS} = 0$	—	—	-1	μA
Gate threshold voltage	V_{th}	$V_{DS} = -5$ V, $I_D = -0.1$ mA	-0.8	—	-2.5	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = -5$ V, $I_D = -10$ mA	15	—	—	mS
Drain-source ON resistance	$R_{DS(ON)}$	$I_D = -10$ mA, $V_{GS} = -4$ V	—	20	50	Ω
Input capacitance	C_{iss}	$V_{DS} = -5$ V, $V_{GS} = 0$, $f = 1$ MHz	—	10.5	—	pF
Reverse transfer capacitance	C_{rss}	$V_{DS} = -5$ V, $V_{GS} = 0$, $f = 1$ MHz	—	1.9	—	pF
Output capacitance	C_{oss}	$V_{DS} = -5$ V, $V_{GS} = 0$, $f = 1$ MHz	—	7.2	—	pF
Switching time	Turn-on time	t_{on}	—	0.15	—	μs
	Turn-off time	t_{off}	—	0.13	—	

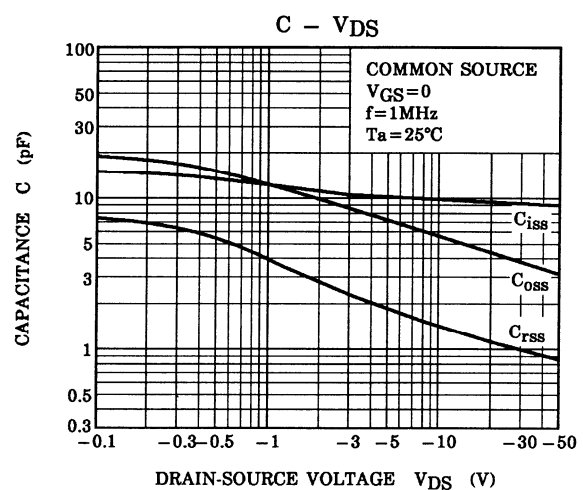
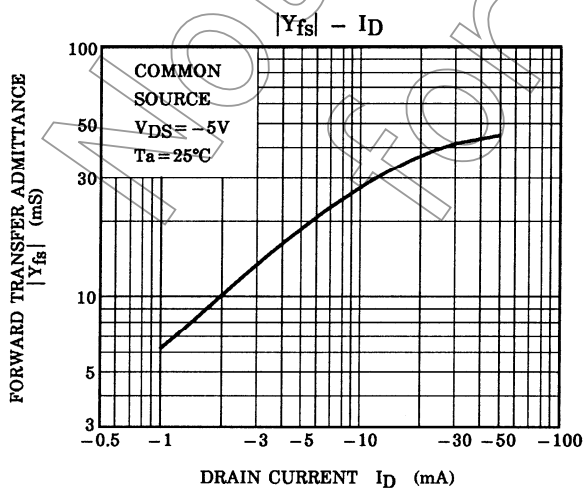
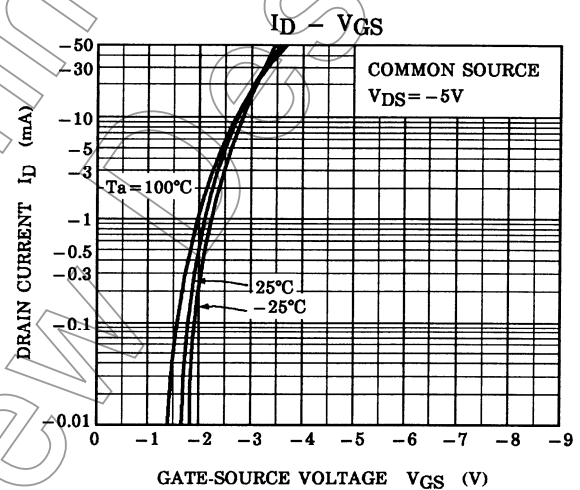
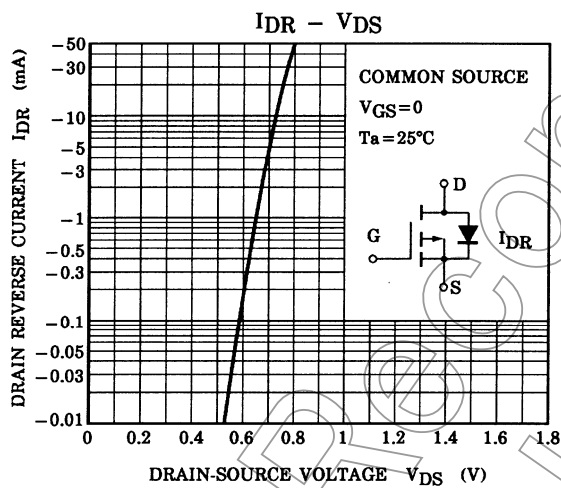
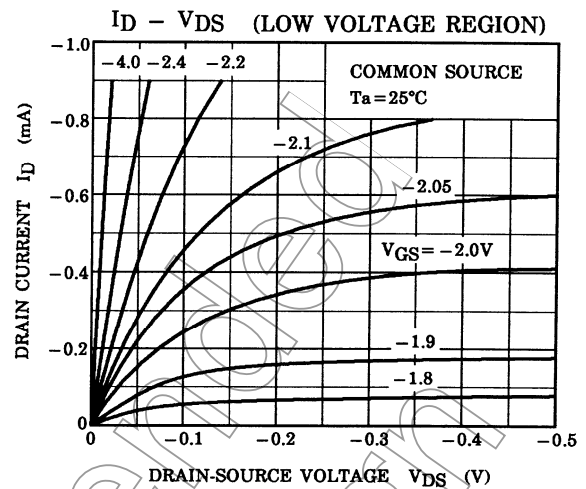
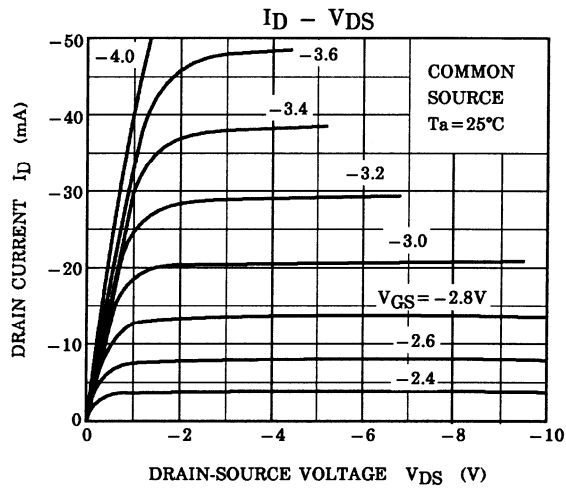
Unit: mm

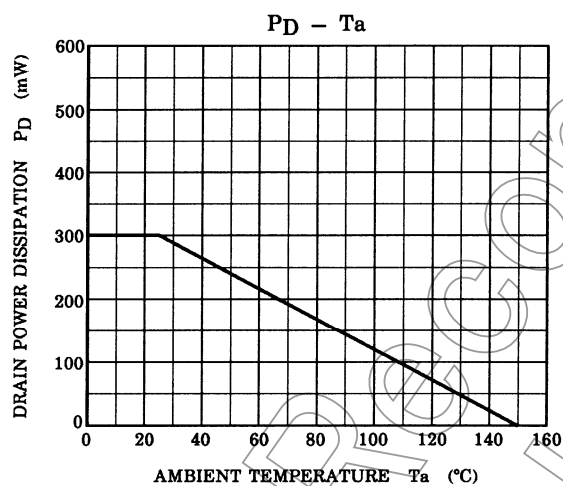
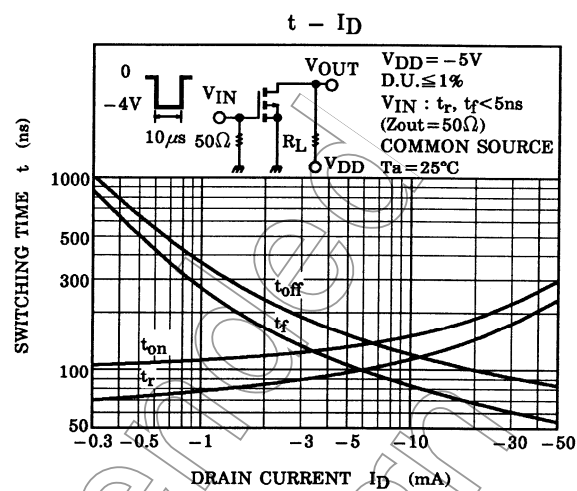
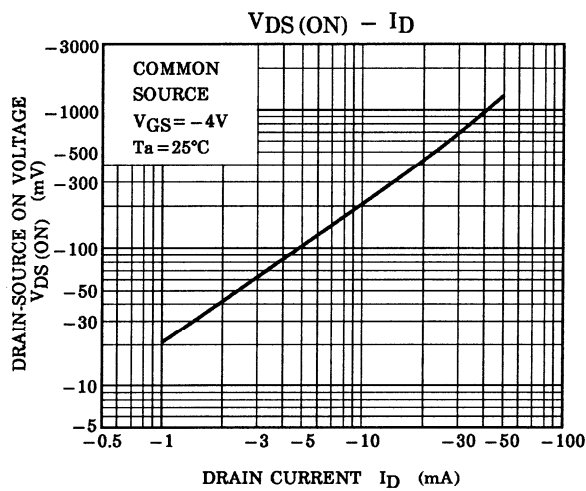


Weight: 0.13 g (typ.)

Switching Time Test Circuit







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