

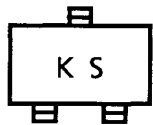
TOSHIBA Field Effect Transistor Silicon P Channel MOS Type

## 2SJ346

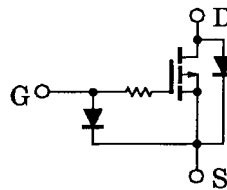
High Speed Switching Applications  
Analog Switch Applications

- Low threshold voltage:  $V_{th} = -0.5 \sim -1.5$  V
- High speed
- Small package
- Complementary to 2SK1829

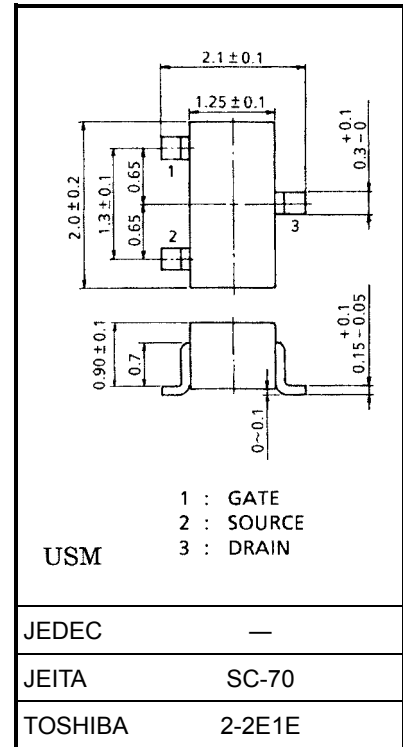
### Marking



### Equivalent Circuit



Unit: mm



Weight: 0.006 g (typ.)

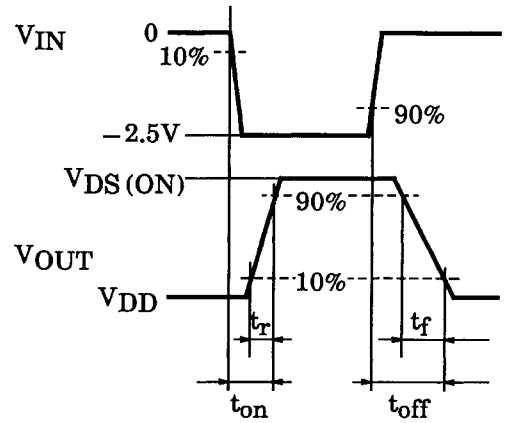
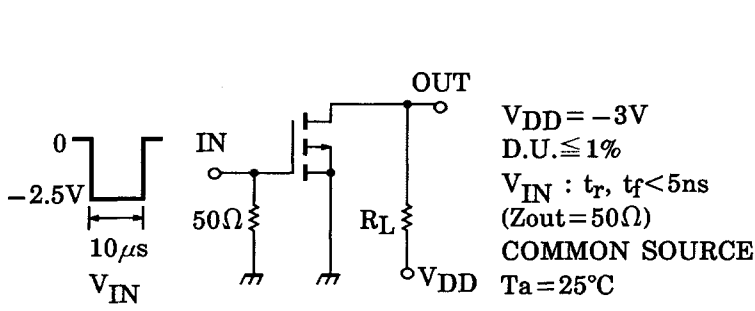
### Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

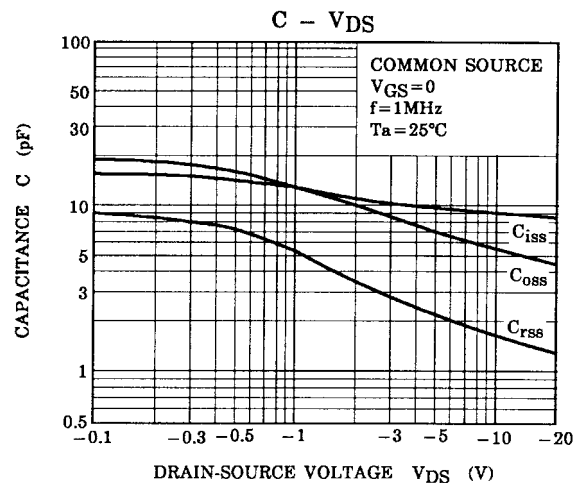
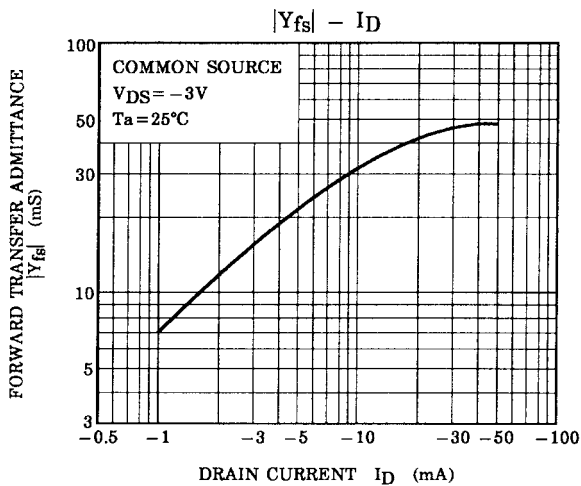
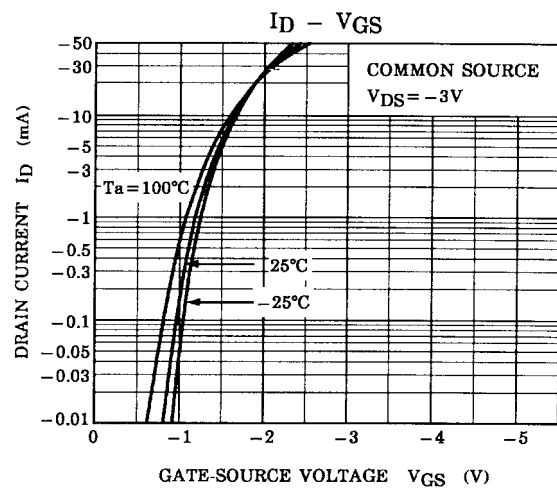
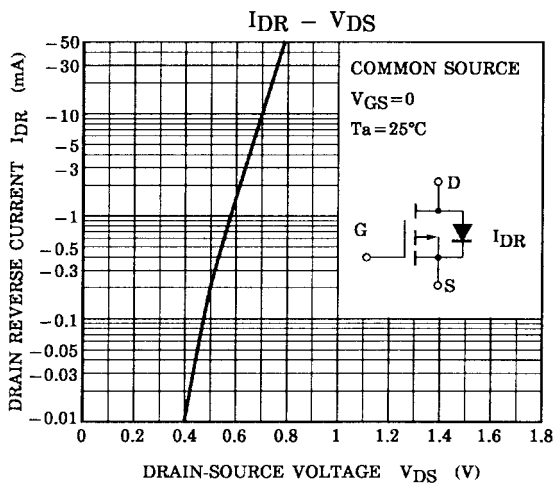
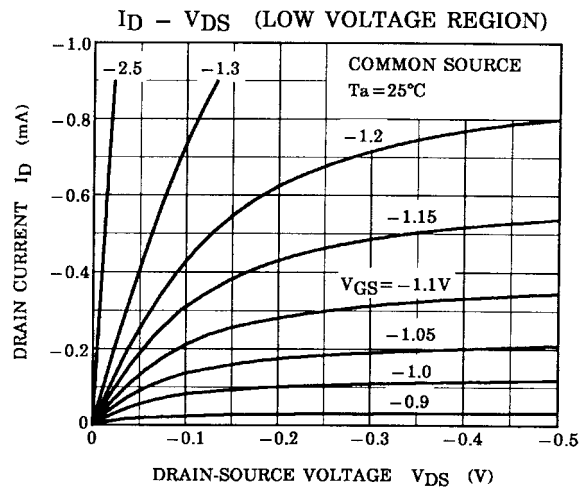
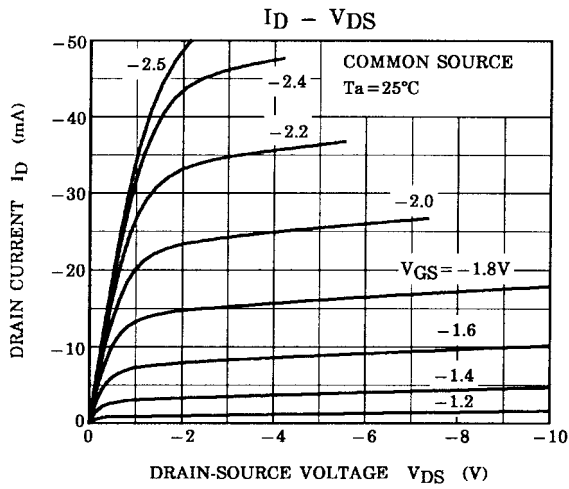
Characteristics	Symbol	Rating	Unit
Drain-source voltage	$V_{DS}$	-20	V
Gate-source voltage	$V_{GSS}$	-7	V
DC drain current	$I_D$	-50	mA
Drain power dissipation	$P_D$	100	mW
Channel temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55~150	$^\circ\text{C}$

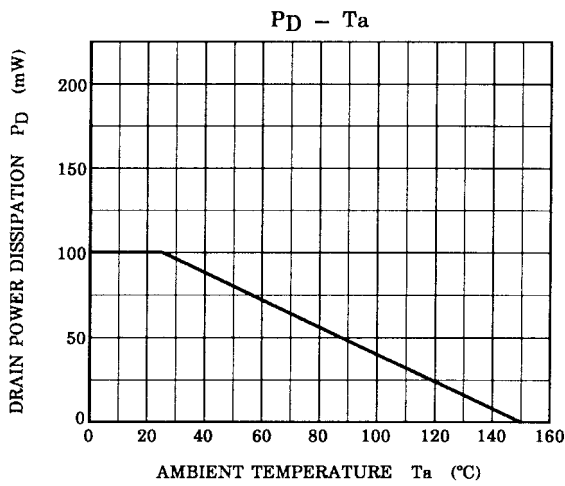
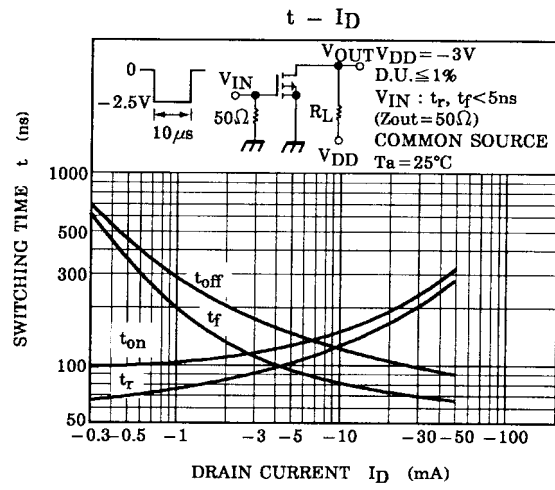
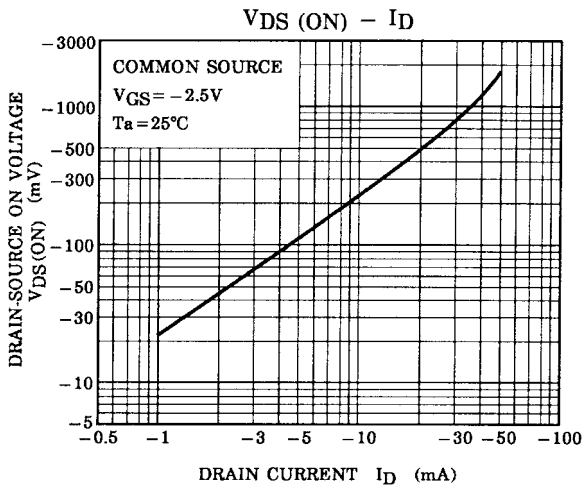
### Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit	
Gate leakage current	$I_{GSS}$	$V_{GS} = -7$ V, $V_{DS} = 0$	—	—	-1	$\mu\text{A}$	
Drain-source breakdown voltage	$V_{(BR)DSS}$	$I_D = -100$ $\mu\text{A}$ , $V_{GS} = 0$	-20	—	—	V	
Drain cut-off current	$I_{DSS}$	$V_{DS} = -20$ V, $V_{GS} = 0$	—	—	-1	$\mu\text{A}$	
Gate threshold voltage	$V_{th}$	$V_{DS} = -3$ V, $I_D = -0.1$ mA	-0.5	—	-1.5	V	
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = -3$ V, $I_D = -10$ mA	15	—	—	mS	
Drain-source ON resistance	$R_{DS(ON)}$	$I_D = -10$ mA, $V_{GS} = -2.5$ V	—	20	40	$\Omega$	
Input capacitance	$C_{iss}$	$V_{DS} = -3$ V, $V_{GS} = 0$ , $f = 1$ MHz	—	10.4	—	pF	
Reverse transfer capacitance	$C_{rss}$	$V_{DS} = -3$ V, $V_{GS} = 0$ , $f = 1$ MHz	—	2.8	—	pF	
Output capacitance	$C_{oss}$	$V_{DS} = -3$ V, $V_{GS} = 0$ , $f = 1$ MHz	—	8.4	—	pF	
Switching time	Turn-on time	$t_{on}$	$V_{DD} = -3$ V, $I_D = -10$ mA, $V_{GS} = 0 \sim -2.5$ V	—	0.15	—	$\mu\text{s}$
	Turn-off time	$t_{off}$	$V_{DD} = -3$ V, $I_D = -10$ mA, $V_{GS} = 0 \sim -2.5$ V	—	0.13	—	

**Switching Time Test Circuit**







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