

TOSHIBA FIELD EFFECT TRANSISTOR SILICON P CHANNEL MOS TYPE

2SJ345

HIGH SPEED SWITCHING APPLICATIONS

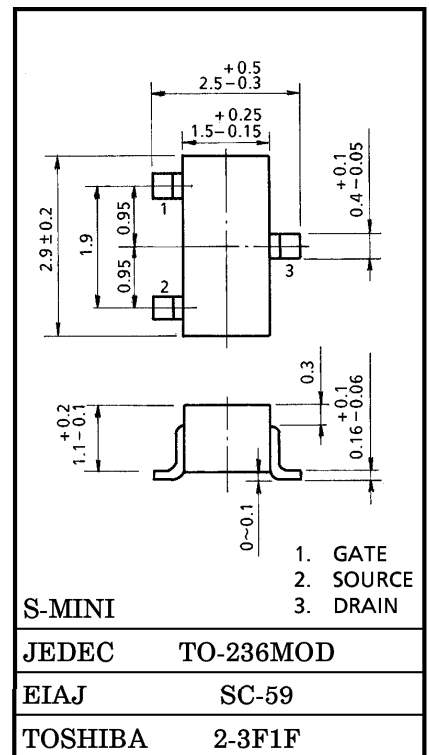
ANAROG SWITCH APPLICATIONS

- Low Threshold Voltage : $V_{th} = -0.5 \sim -1.5V$
- High Speed
- Small Package
- Complementary to 2SK1828

MAXIMUM RATINGS ($T_a = 25^\circ C$)

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	$^\circ C$
Storage Temperature Range	T_{stg}	-55~150	$^\circ C$

Unit in mm



Weight : 0.012g

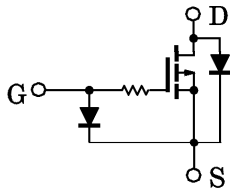
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I_{GSS}	$V_{GS} = -7V, V_{DS} = 0$	—	—	-1	μA
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	μA
Gate Threshold Voltage		V_{th}	$V_{DS} = -3V, I_D = -0.1mA$	-0.5	—	-1.5	V
Forward Transfer Admittance		$ Y_{fs} $	$V_{DS} = -3V, I_D = -10mA$	15	—	—	mS
Drain-Source ON Resistance		$R_{DS(ON)}$	$I_D = -10mA, V_{GS} = -2.5V$	—	20	40	Ω
Input Capacitance		C_{iss}	$V_{DS} = -3V, V_{GS} = 0, f = 1MHz$	—	10.4	—	pF
Reverse Transfer Capacitance		C_{rss}	$V_{DS} = -3V, V_{GS} = 0, f = 1MHz$	—	2.8	—	pF
Output Capacitance		C_{oss}	$V_{DS} = -3V, V_{GS} = 0, f = 1MHz$	—	8.4	—	pF
Switching Time	Turn-on Time	t_{on}	$V_{DD} = -3V, I_D = -10mA, V_{GS} = 0 \sim -2.5V$	—	0.15	—	μs
	Turn-off Time	t_{off}	$V_{DD} = -3V, I_D = -10mA, V_{GS} = 0 \sim -2.5V$	—	0.13	—	μs

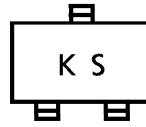
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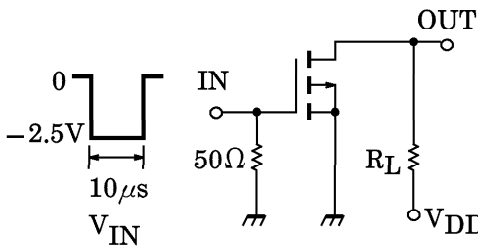
EQUIVALENT CIRCUIT



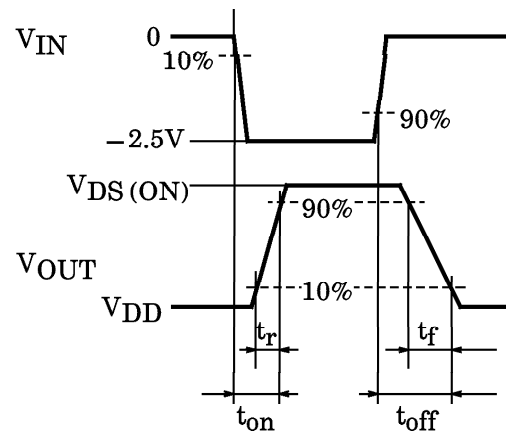
MARKING



SWITCHING TIME TEST CIRCUIT



$V_{DD} = -3V$
 $D.U. \leq 1\%$
 $V_{IN} : t_r, t_f < 5ns$
 $(Z_{out} = 50\Omega)$
COMMON SOURCE
 $T_a = 25^\circ C$



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