

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

2SC3437

ULTRA HIGH SPEED SWITCHING APPLICATIONS

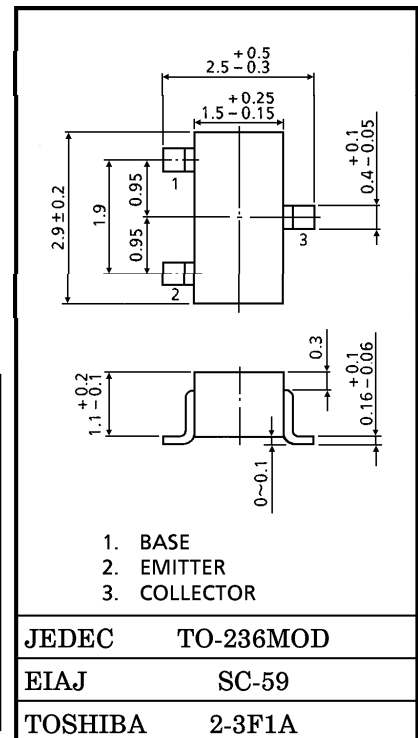
COMPUTER, COUNTER APPLICATIONS

- High Transition Frequency : $f_T=400\text{MHz}$ (Typ.)
- Low Saturation Voltage : $V_{CE(sat)}=0.3\text{V}$ (Max.)
- High Speed Switching Time : $t_{stg}=15\text{ns}$ (Typ.)

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

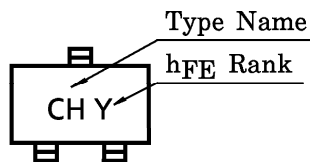
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	15	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	200	mA
Base Current	I_B	40	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~125	$^\circ\text{C}$

Unit in mm



Weight : 0.012g

MARKING



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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = 40V, I_E = 0$	—	—	0.1	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 5V, I_C = 0$	—	—	0.1	μA
DC Current Gain	$h_{FE(1)}$ (Note)		$V_{CE} = 1V, I_C = 10mA$	40	—	240	
	$h_{FE(2)}$						
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 20mA, I_B = 1mA$	—	—	0.3	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = 20mA, I_B = 1mA$	—	—	1.0	V
Transition Frequency		f_T	$V_{CE} = 10V, I_C = 10mA$	200	400	—	MHz
Collector Output Capacitance		C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	4	6	pF
Switching Time	Turn-on Time	t_{on}	<p>DUTY CYCLE $\leq 2\%$</p>	—	70	—	ns
	Storage Time	t_{stg}		—	15	—	
	Fall Time	t_f		—	30	—	

(Note) : $h_{FE(1)}$ Classification R : 40~80, O : 70~140, Y : 120~240

