

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

2SC5029

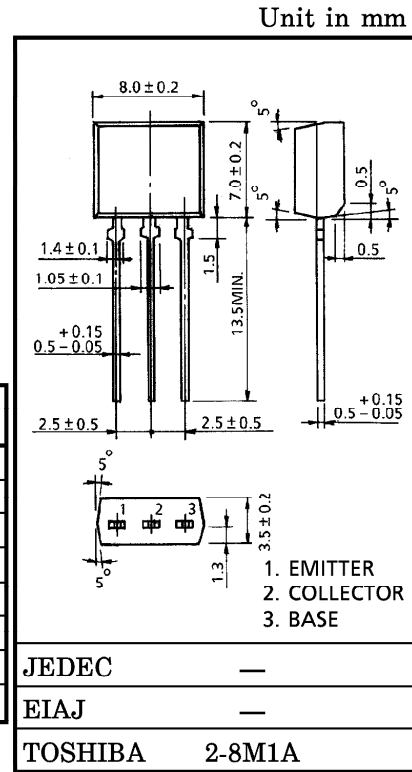
POWER AMPLIFIER APPLICATIONS

POWER SWITCHING APPLICATIONS

- Low Saturation Voltage
: $V_{CE(sat)} = 0.5V$ (Max.)
- High Collector Power Dissipation : $P_C = 1.3W$ ($T_a = 25^\circ C$)
- High Speed Switching : $t_{stg} = 1.0\mu s$ (Typ.)
- Complementary to 2SA1892

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	3	A
Base Current	I_B	0.2	A
Collector Power Dissipation	P_C	1.3	W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55~150	$^\circ C$



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

Weight : 0.55g (Typ.)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = 50V, I_E = 0$	—	—	1.0	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 5V, I_C = 0$	—	—	1.0	μA
Collector-Emitter Breakdown Voltage		$V(BR)_{CEO}$	$I_C = 10mA, I_B = 0$	50	—	—	V
DC Current Gain		$h_{FE(1)}$ (Note)	$V_{CE} = 2V, I_C = 0.5A$	70	—	240	
		$h_{FE(2)}$	$V_{CE} = 2V, I_C = 1.5A$	40	—	—	
Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	$I_C = 1A, I_B = 0.05A$	—	—	0.5	V
	Base-Emitter	$V_{BE(sat)}$	$I_C = 1A, I_B = 0.05A$	—	—	1.2	
Transition Frequency		f_T	$V_{CE} = 2V, I_C = 0.5A$	—	100	—	MHz
Collector Output Capacitance		C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	30	—	pF
Switching Time	Turn-on Time	t_{on}		—	0.1	—	μs
	Storage Time	t_{stg}		—	1.0	—	
	Fall Time	t_f		—	0.1	—	

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

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