

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

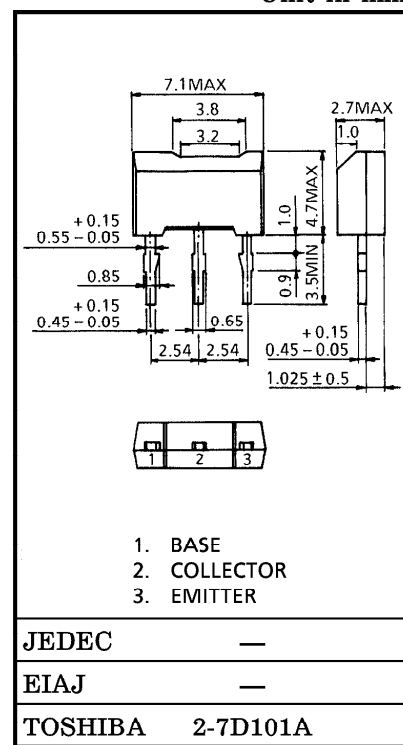
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POWER AMPLIFIER APPLICATIONS

POWER SWITCHING APPLICATIONS

- Low Saturation Voltage : $V_{CE(sat)} = 0.5V$ (Max.)
- High Speed Switching Time : $t_{stg} = 1.0\mu s$ (Typ.)
- Complementary to 2SA1429

Unit in mm



Weight : 0.2g (Typ.)

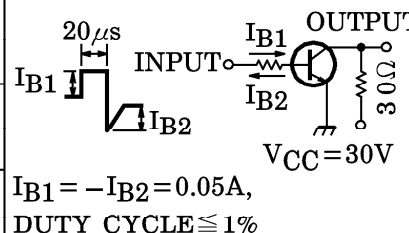
MAXIMUM RATINGS (T_a = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	2	A
Base Current	I_B	1	A
Collector Power Dissipation	P_C	1000	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB}=80V, I_E=0$	—	—	1.0	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB}=5V, I_C=0$	—	—	1.0	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	80	—	—	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	—	—	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=1A, I_B=0.05A$	—	0.15	0.5	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C=1A, I_B=0.05A$	—	0.9	1.2	V
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}		—	0.2	—	μs
	Storage Time	t_{stg}		—	1.0	—	
	Fall Time	t_f		$I_{B1} = -I_{B2} = 0.05A,$ $DUTY\ CYCLE \leq 1\%$	—	0.2	

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

