

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

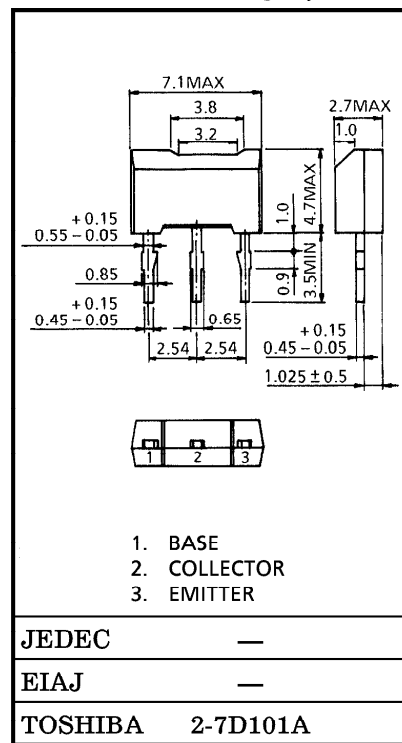
2SC3668

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 2SA1428.

Unit in mm



Weight : 0.2g (Typ.)

MAXIMUM RATINGS (Ta = 25°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	2	A
Base Current	I_B	0.5	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}	$V_{CB} = 50V, I_E = 0$	—	—	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	—	—		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1A, I_B = 0.05A$	—	—	0.5	V	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 1A, I_B = 0.05A$	—	—	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}	<p>$I_{B1} = -I_{B2} = 0.05A, V_{CC} = 30V$ DUTY CYCLE $\leq 1\%$</p>	—	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

