

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS) (DARLINGTON)

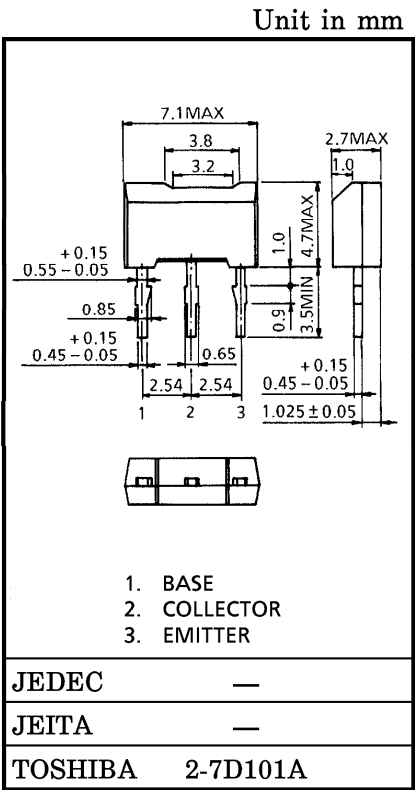
2SD1631

MICRO MOTOR DRIVE, HAMMER DRIVE APPLICATIONS
SWITCHING APPLICATIONS
POWER AMPLIFIER APPLICATIONS

- High DC Current Gain : $h_{FE}=4000$ (Min.)
($V_{CE}=2V$, $I_C=150mA$)
- Low Saturation Voltage : $V_{CE(sat)}=1.5V$ (Max.)
($I_C=1A$, $I_B=1mA$)

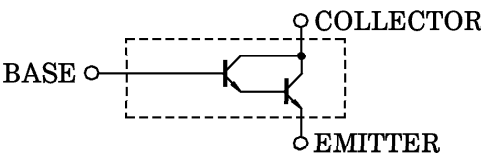
MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Base Voltage	V_{EBO}	10	V
Continuous Collector Current	I_C	1.5	A
Continuous Base Current	I_B	50	mA
Collector Power Dissipation	P_C	1000	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

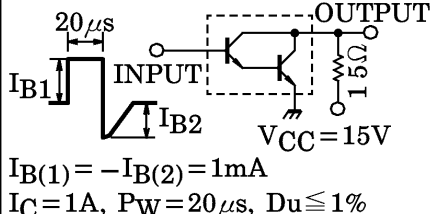


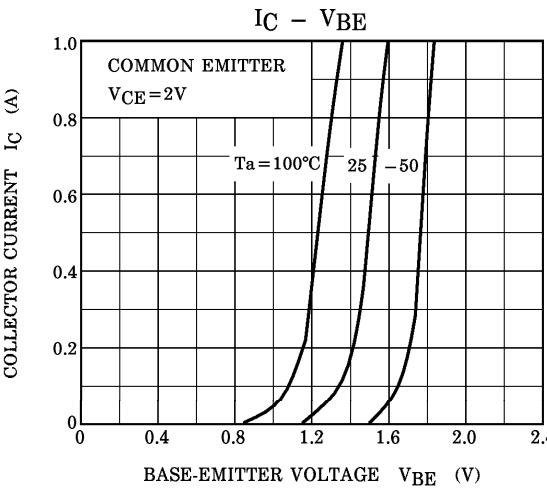
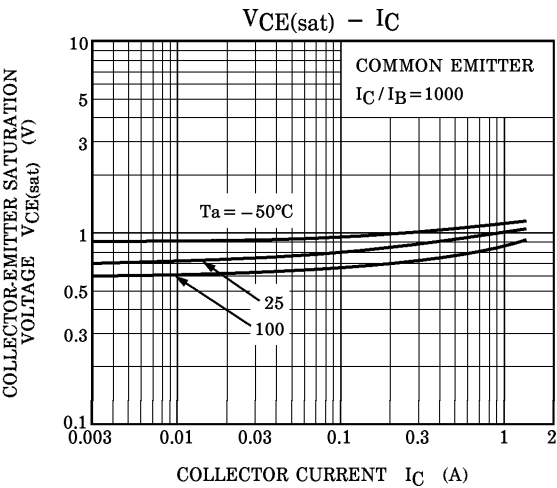
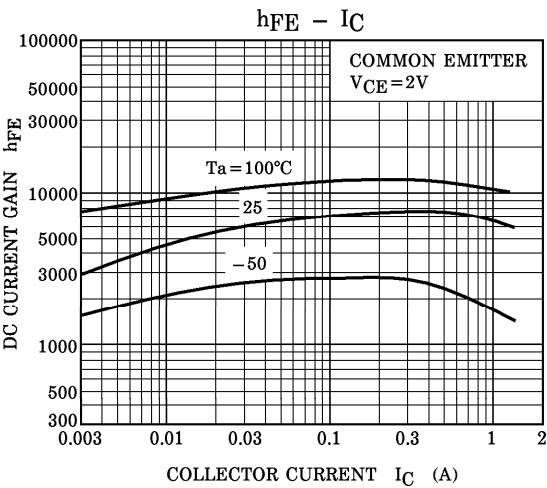
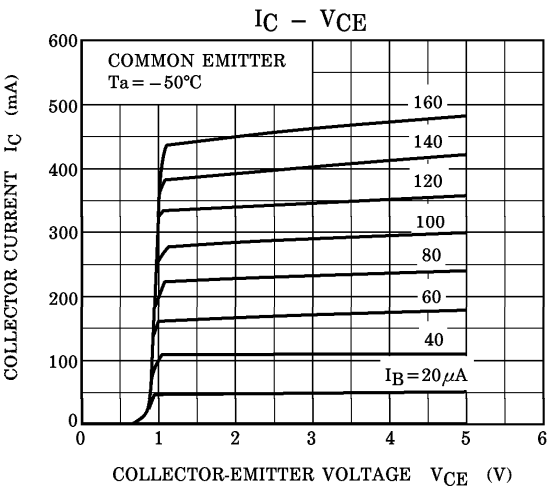
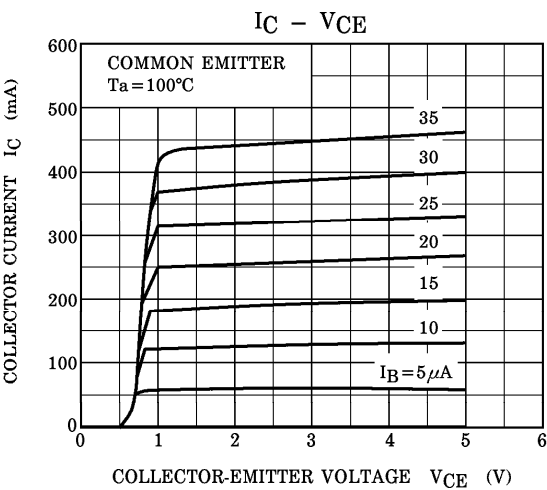
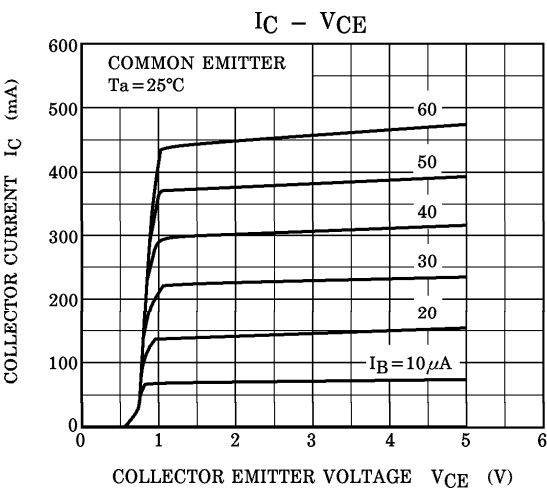
Weight : 0.20g (Typ.)

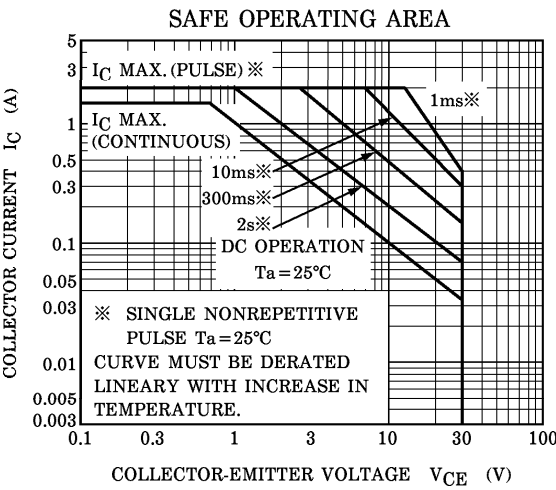
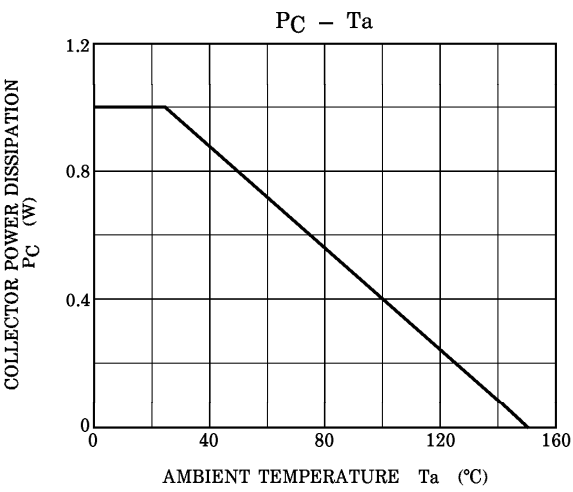
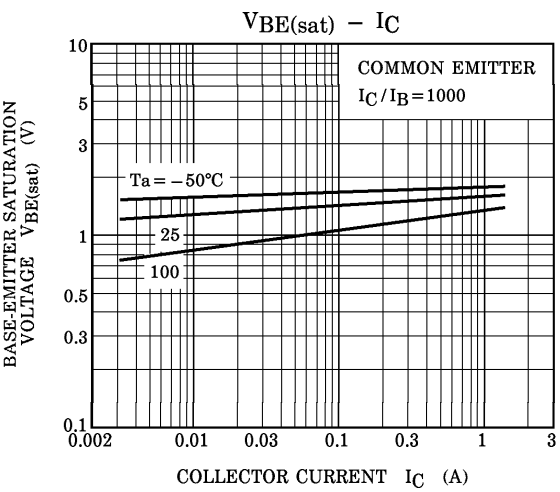
EQUIVALENT CIRCUIT



ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = 30V, I_E = 0$	—	—	10	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 10V, I_C = 0$	—	—	10	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	30	—	—	V
DC Current Gain		h_{FE}	$V_{CE} = 2V, I_C = 150mA$	4000	—	—	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 1A, I_B = 1mA$	—	—	1.5	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = 1A, I_B = 1mA$	—	—	2.2	V
Switching Time	Turn-on Time	t_{on}	 <p> $I_{B(1)} = -I_{B(2)} = 1mA$ $I_C = 1A, P_W = 20\mu s, D_u \leq 1\%$ </p>	—	0.20	—	μs
	Storage Time	t_{stg}		—	0.6	—	μs
	Fall Time	t_f		—	0.3	—	μs





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