

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

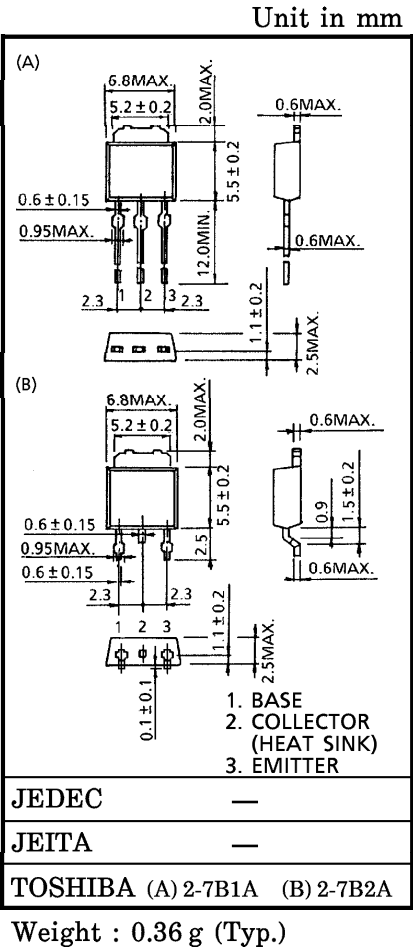
2SC3076

POWER AMPLIFIER APPLICATIONS  
POWER SWITCHING APPLICATIONS

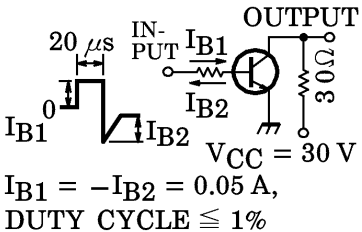
- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = 0.5\text{ V (Max.) (I_C = 1 A)}$
- Excellent Switching Time :  $t_{stg} = 1.0\text{ }\mu\text{s (Typ.)}$
- Complementary to 2SA1241

MAXIMUM RATINGS (Tc = 25°C)

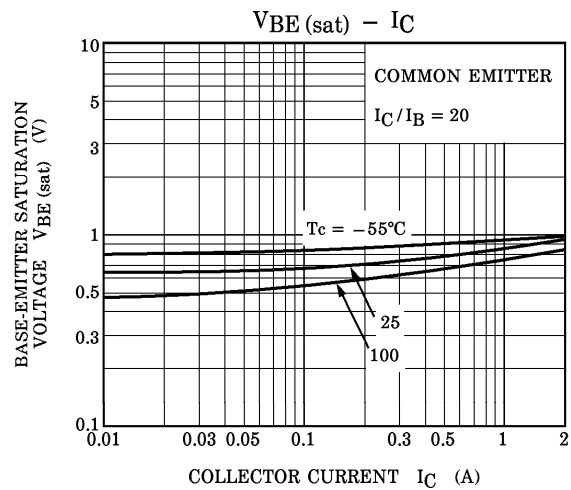
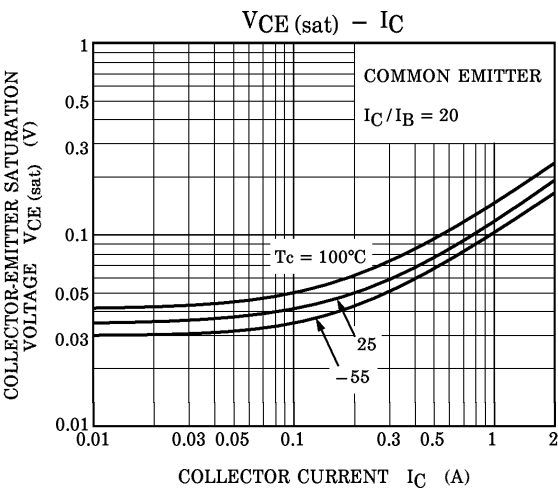
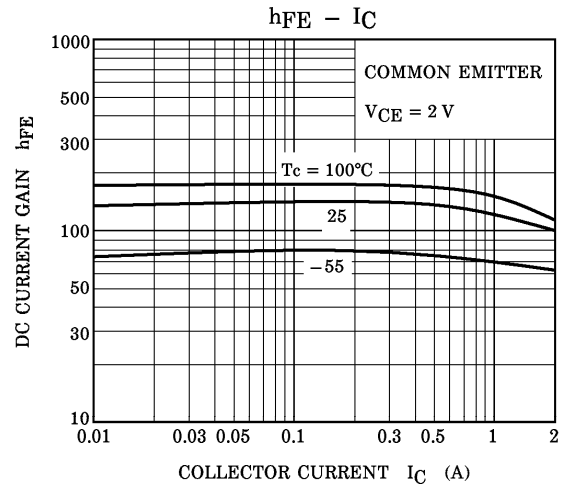
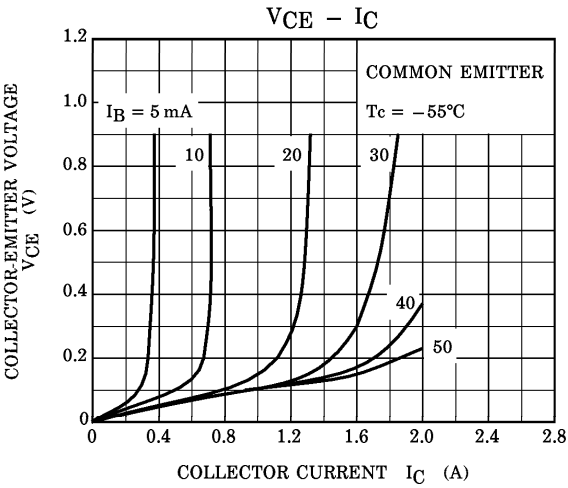
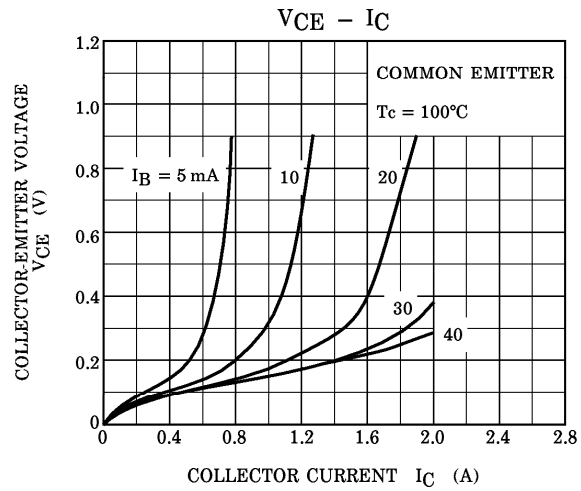
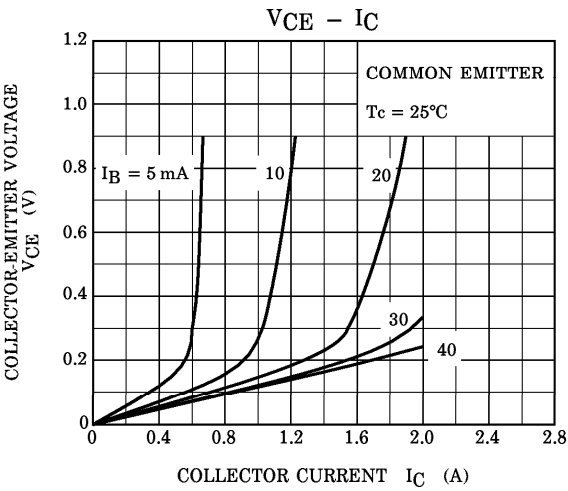
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		$V_{CBO}$	50	V
Collector-Emitter Voltage		$V_{CEO}$	50	V
Emitter-Base Voltage		$V_{EBO}$	5	V
Collector Current		$I_C$	2	A
Base Current		$I_B$	1	A
Collector Power Dissipation	Ta = 25°C	$P_C$	1.0	W
	Tc = 25°C		10	
Junction Temperature		$T_j$	150	°C
Storage Temperature Range		$T_{stg}$	-55~150	°C

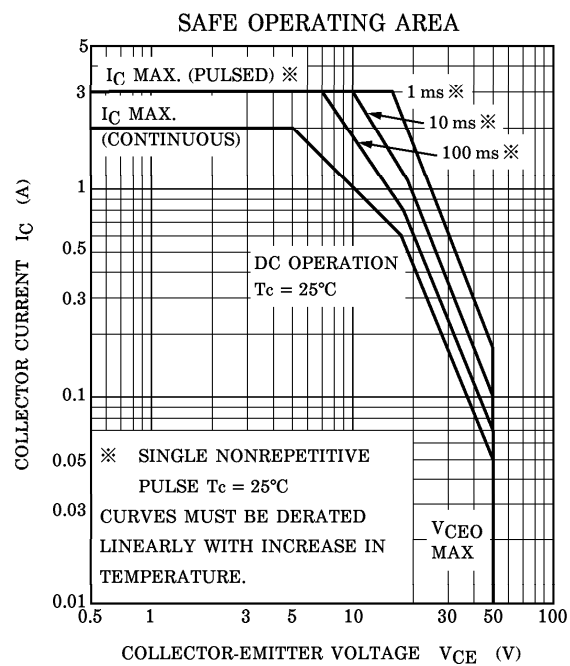
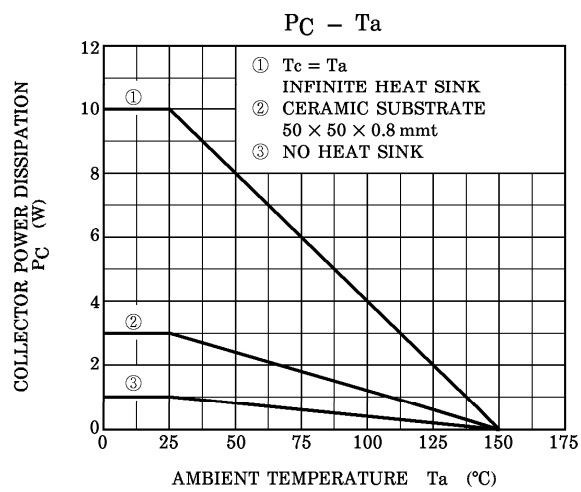
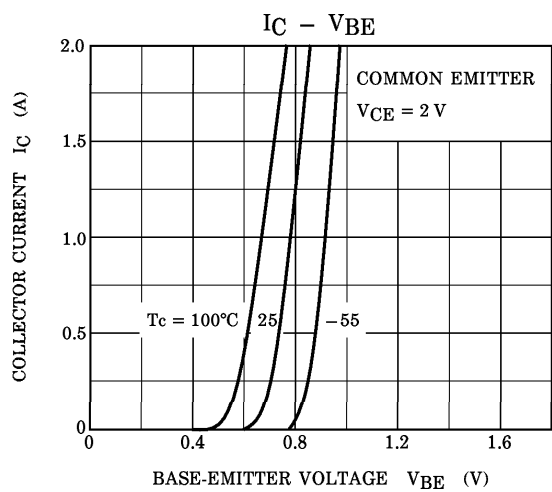


ELECTRICAL CHARACTERISTICS ( $T_c = 25^\circ\text{C}$ )

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		$I_{CBO}$	$V_{CB} = 50\text{ V}, I_E = 0$	—	—	1.0	$\mu\text{A}$
Emitter Cut-off Current		$I_{EBO}$	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	1.0	$\mu\text{A}$
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = 10\text{ mA}, I_B = 0$	50	—	—	V
DC Current Gain		$h_{FE(1)}$ (Note)	$V_{CE} = 2\text{ V}, I_C = 0.5\text{ A}$	70	—	240	
		$h_{FE(2)}$	$V_{CE} = 2\text{ V}, I_C = 1.5\text{ A}$	40	—	—	
Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	$I_C = 1\text{ A}, I_B = 0.05\text{ A}$	—	—	0.5	V
	Base-Emitter	$V_{BE(sat)}$	$I_C = 1\text{ A}, I_B = 0.05\text{ A}$	—	—	1.2	
Transition Frequency		$f_T$	$V_{CE} = 2\text{ V}, I_C = 0.5\text{ A}$	—	80	—	MHz
Collector Output Capacitance		$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0,$ $f = 1\text{ MHz}$	—	30	—	pF
Switching Time	Turn-on Time	$t_{on}$	 <p><math>I_{B1} = -I_{B2} = 0.05\text{ A},</math> DUTY CYCLE <math>\leq 1\%</math></p>	—	0.1	—	$\mu\text{s}$
	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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