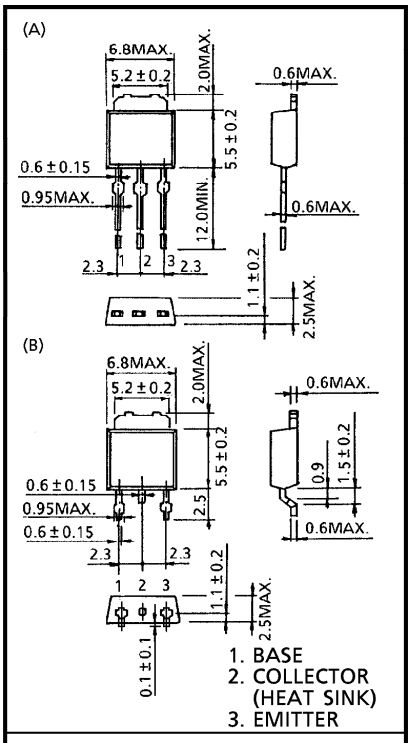
TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2SA1241

POWER AMPLIFIER APPLICATIONS
POWER SWITCHING APPLICATIONS

Unit in mm

- Low Collector Saturation Voltage
  : $V_{CE\ (sat)} = -0.5$ V (Max.) ($I_C = -1$ A)
- Excellent Switching Time : $t_{stg} = 1.0\ \mu$s (Typ.)
- Complementary to 2SC3076



JEDEC	—
EIAJ	—
TOSHIBA	(A) 2-7B1A (B) 2-7B2A

Weight : 0.36 g

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	−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

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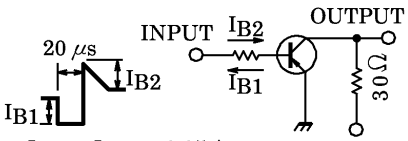
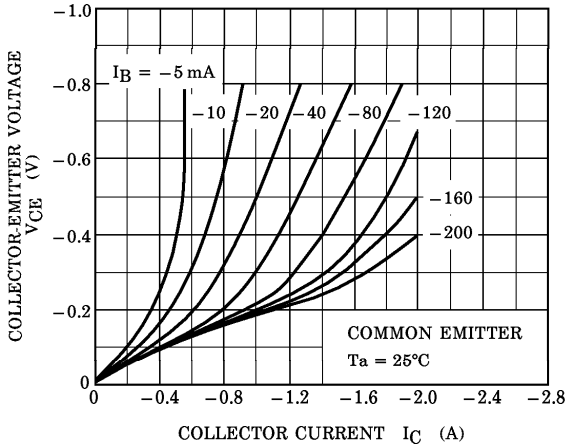
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

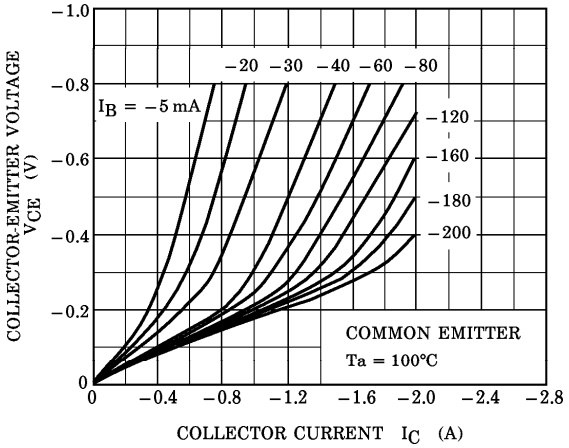
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = -50$ V, $I_E = 0$	—	—	−1.0	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = -5$ V, $I_C = 0$	—	—	−1.0	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = -10$ mA, $I_B = 0$	−50	—	—	V
DC Current Gain		$h_{FE(1)}$ (Note)	$V_{CE} = -2$ V, $I_C = -0.5$ A	70	—	240	
		$h_{FE(2)}$	$V_{CE} = -2$ V, $I_B = -1.5$ A	40	—	—	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = -1$ A, $I_B = -0.05$ A	—	—	−0.5	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = -1$ A, $I_B = -0.05$ A	—	—	−1.2	V
Transition Frequency		f_T	$V_{CE} = -2$ V, $I_C = -0.5$ A	—	100	—	MHz
Collector Output Capacitance		C_{ob}	$V_{CB} = -10$ V, $I_E = 0$, f = 1 MHz	—	40	—	pF
Switching Time	Turn-on Time	t_{on}		—	0.1	—	μs
	Storage Time	t_{stg}		—	1.0	—	
	Fall Time	t_f	$-I_{B1} = I_{B2} = 0.05$ A DUTY CYCLE ≦ 1% $V_{CC} = -30$ V	—	0.1	—	

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

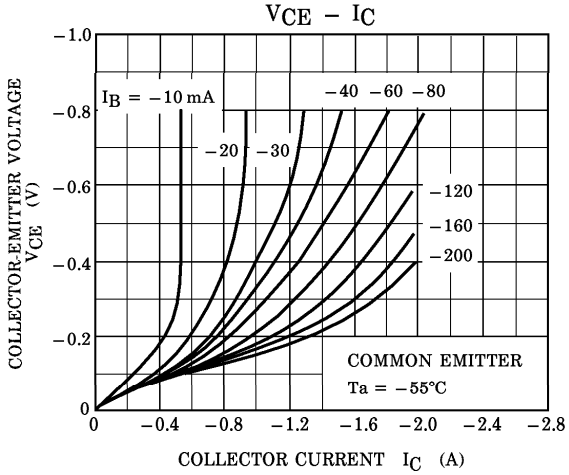
V_{CE} – I_C



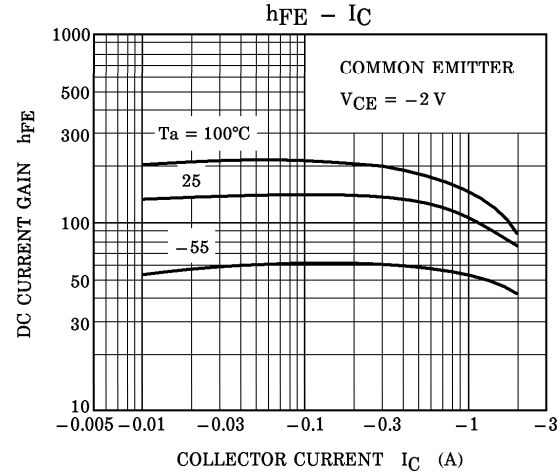
V_{CE} – I_C



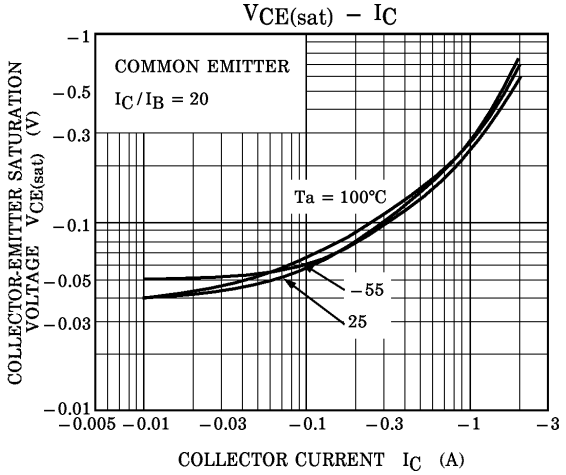
V_{CE} – I_C



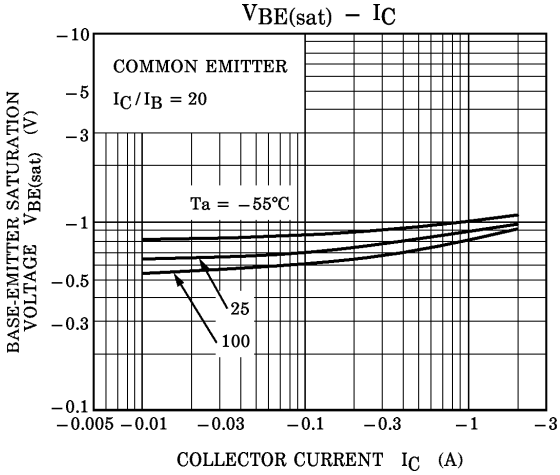
h_{FE} – I_C



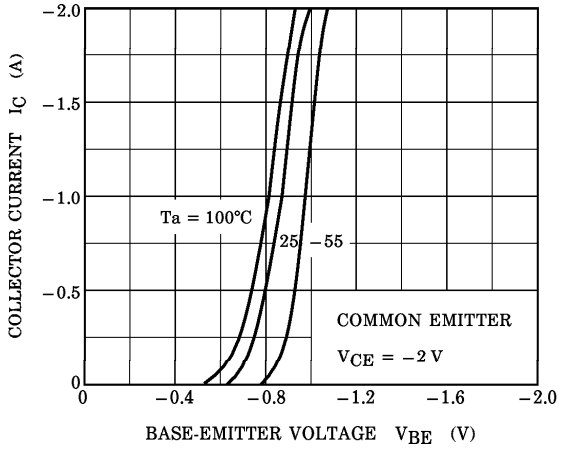
$V_{CE(sat)}$ – I_C



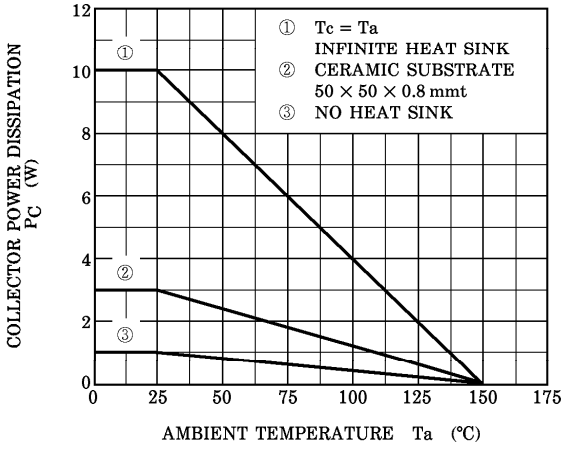
$V_{BE(sat)}$ – I_C



I_C – V_{BE}



P_C – Ta



SAFE OPERATING AREA