

TOSHIBA MULTI CHIP DISCRETE DEVICE

HN4C05JU

AUDIO FREQUENCY GENERAL PURPOSE AMPLIFIER APPLICATIONS
FOR MUTING AND SWITCHING APPLICATIONS

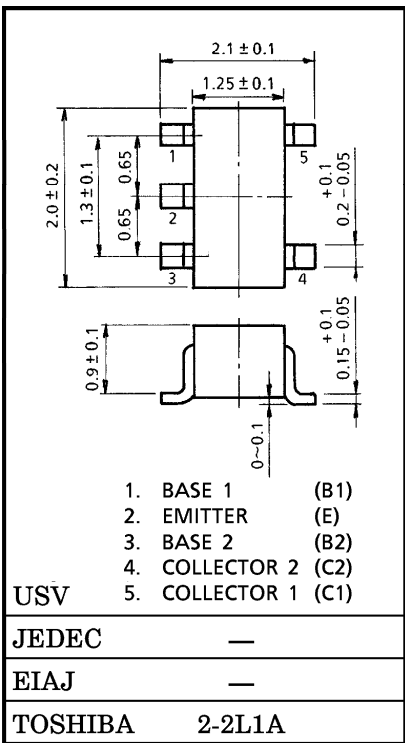
Unit in mm

- Low Saturation Voltage : $V_{CE(sat)}(1) = 15\text{ mV (Typ.)}$
@ $I_C = 10\text{ mA} / I_B = 0.5\text{ mA}$
- High Current : $I_C = 400\text{ mA (Max.)}$

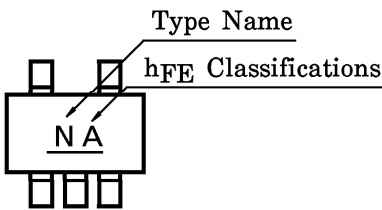
MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$) (Q1, Q2 COMMON)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	15	V
Collector-Emitter Voltage	V_{CEO}	12	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	400	mA
Base Current	I_B	50	mA
Collector Power Dissipation	P_C (*)	200	mW
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	$-55\sim 125$	$^\circ\text{C}$

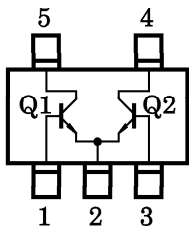
(*) Total Rating



MARKING



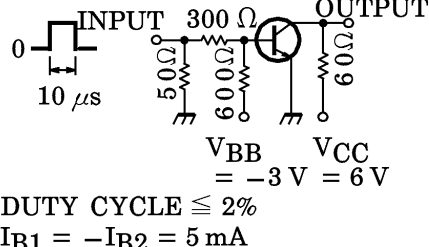
PIN ASSIGNMENT (TOP VIEW)



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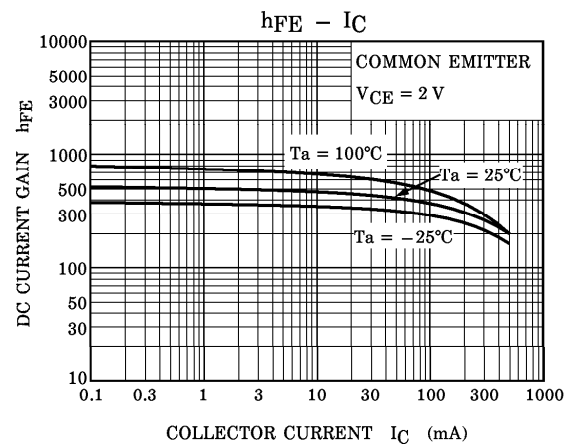
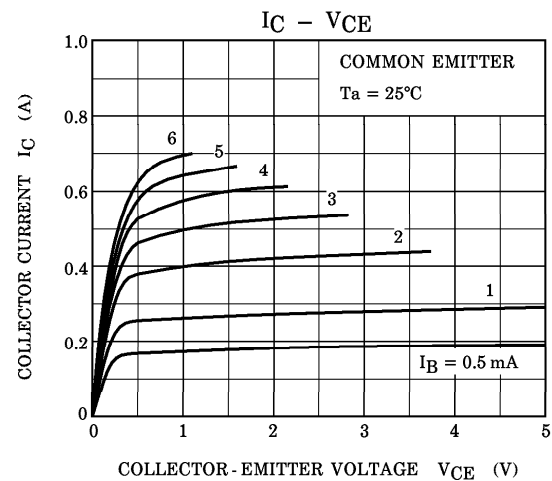
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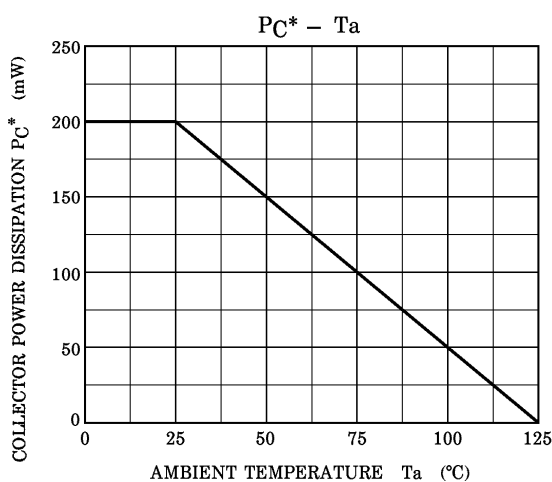
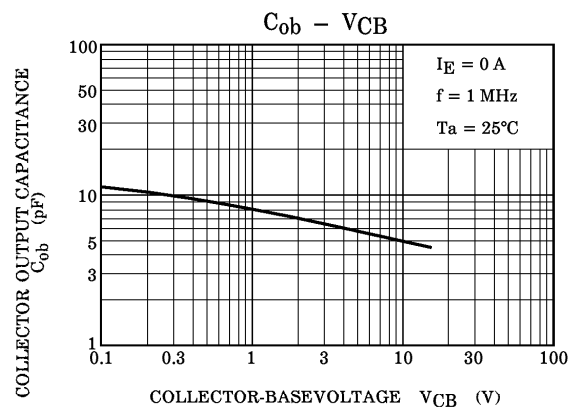
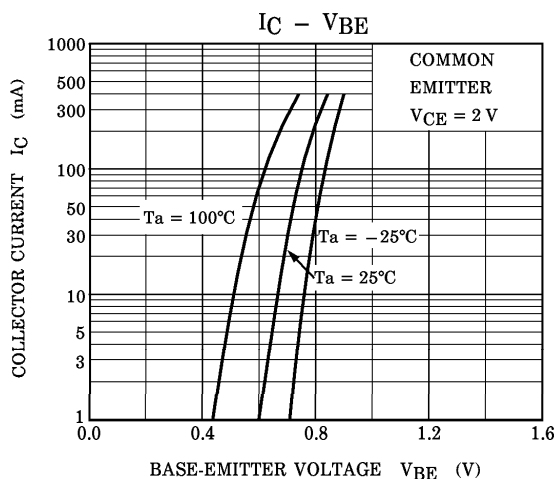
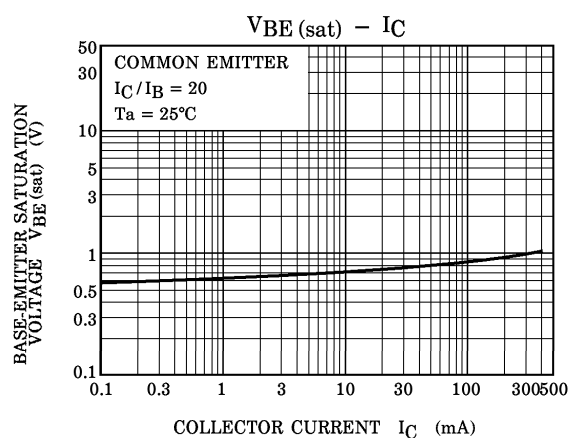
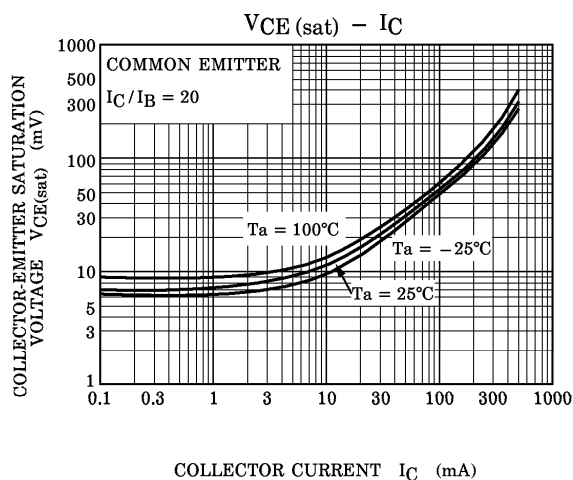
ELECTRICAL CHARACTERISTICS (Ta = 25°C) (Q1, Q2 COMMON)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	V _{CB} = 15 V, I _E = 0	—	—	0.1	μA
Emitter Cut-off Current		IEBO	V _{EB} = 5 V, I _C = 0	—	—	0.1	μA
DC Current Gain		h _{FE} (Note)	V _{CE} = 2 V, I _C = 10 mA	300	—	1000	
Collector-Emitter Sturation Voltage	V _{CE} (sat) (1)		I _C = 10 mA, I _B = 0.5 mA	—	15	30	mV
	V _{CE} (sat) (2)		I _C = 200 mA, I _B = 10 mA	—	110	250	
Base-Emitter Voltage		V _{BE} (sat)	I _C = 200 mA, I _B = 10 mA	—	0.87	1.2	V
Transition Frequency		f _T	V _{CE} = 2 V, I _C = 10 mA	80	130	—	MHz
Collector Output Capacitance		C _{ob}	V _{CB} = 10 V, I _E = 0, f = 1 MHz	—	4.2	—	pF
Collector-Emitter On Resistance		R _{on}	I _B = 1 mA, V _{in} = 1 V _{rms} , f = 1 kHz	—	0.9	—	Ω
Switching Time	Turn-on Time	t _{on}	 DUTY CYCLE ≤ 2% I _{B1} = -I _{B2} = 5 mA	—	85	—	ns
	Storage Time	t _{stg}		—	170	—	
	Fall Time	t _f		—	40	—	

(Note) h_{FE} Classification A : 300~600, B : 500~1000

(Q1, Q2 COMMON)





*: Total Rating