

TOSHIBA

HN1C03FU

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

HN1C03FU

FOR MUTING AND SWITCHING APPLICATIONS.

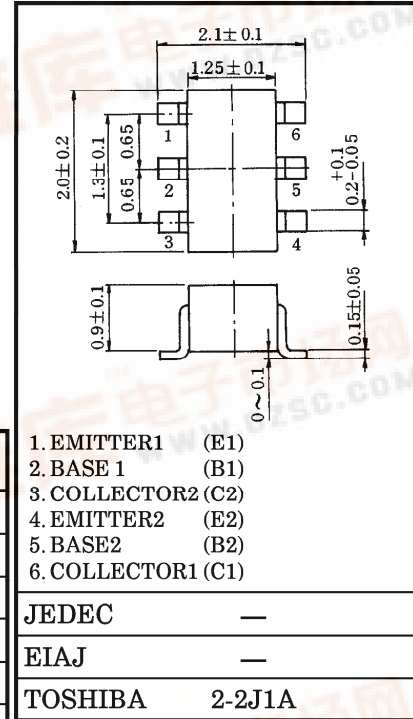
Unit in mm

- Including Two Devices in US6 (Ultra Super Mini Type with 6 leads)
- High Emitter-Base Voltage : $V_{EBO} = 25V$ (Min.)
- High Reverse h_{FE}
: Reverse $h_{FE} = 150$ (Typ.) ($V_{CE} = -2V, I_C = -4mA$)
- Low on Resistance : $R_{ON} = 1\Omega$ (Typ.) ($I_B = 5mA$)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	25	V
Collector Current	I_C	300	mA
Base Current	I_B	60	mA
Collector Power Dissipation	P_C^*	200	mW
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55~150	$^\circ C$

* Total Rating



- 1. EMITTER1 (E1)
- 2. BASE 1 (B1)
- 3. COLLECTOR2 (C2)
- 4. EMITTER2 (E2)
- 5. BASE2 (B2)
- 6. COLLECTOR1 (C1)

JEDEC	—
EIAJ	—
TOSHIBA	2-2J1A

Weight : 6.8mg

961001FAA2

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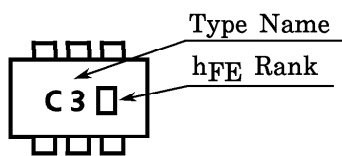


ELECTRICAL CHARACTERISTICS (Ta = 25°C) (Q1, Q2 COMMON)

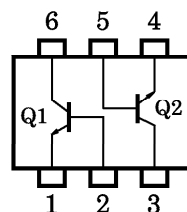
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = 50V, I_E = 0$	—	—	0.1	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = 25V, I_C = 0$	—	—	0.1	μA
DC Current Gain		$h_{FE}(\text{Note})$	$V_{CE} = 2V, I_C = 4mA$	200	—	1200	
Collector-Emitter Saturation Voltage		$V_{CE}(\text{sat})$	$I_C = 30mA, I_B = 3mA$	—	0.042	0.1	V
Base-Emitter Voltage		V_{BE}	$V_{CE} = 2V, I_C = 4mA$	—	0.61	—	V
Transition Frequency		f_T	$V_{CE} = 6V, I_C = 4mA$	—	30	—	MHz
Collector Output Capacitance		C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	4.8	7	pF
Switching Time	Turn-on Time	t_{on}		—	160	—	ns
	Storage Time	t_{stg}		—	500	—	
	Fall Time	t_f		—	130	—	

Note: h_{FE} Classification
 A : 200~700, B : 350~1200

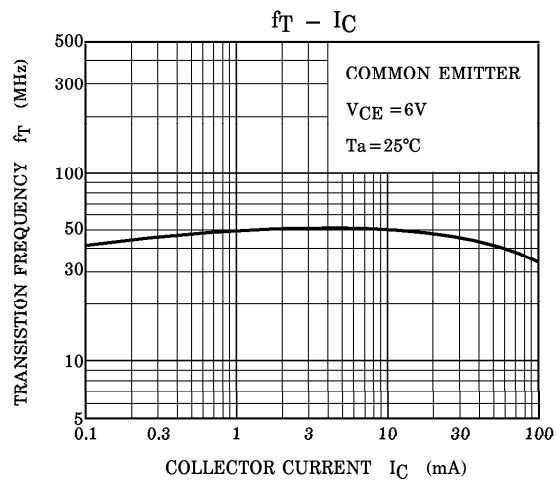
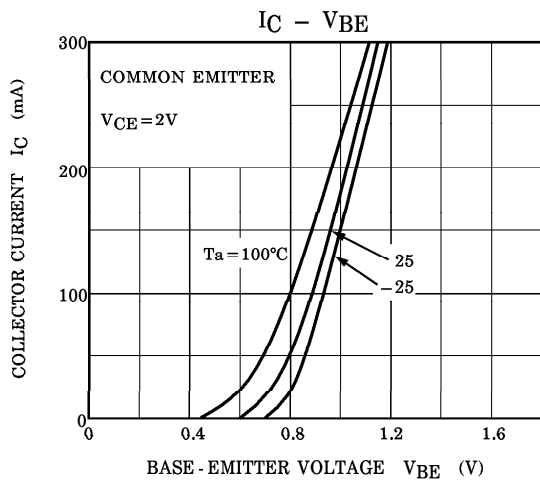
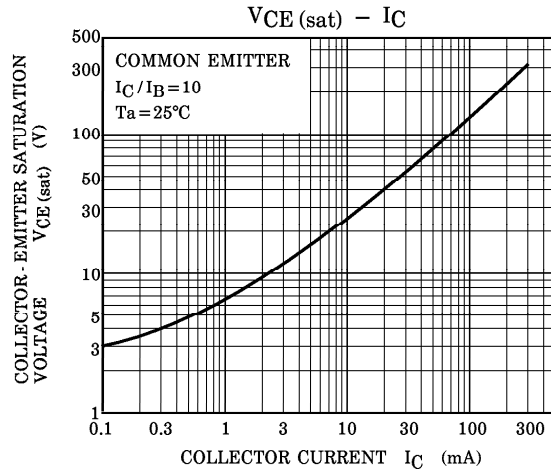
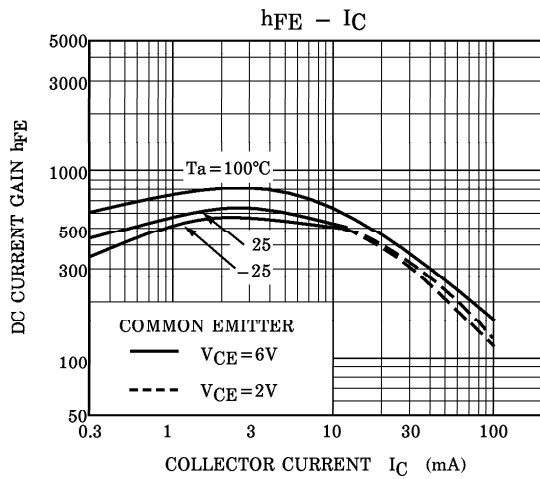
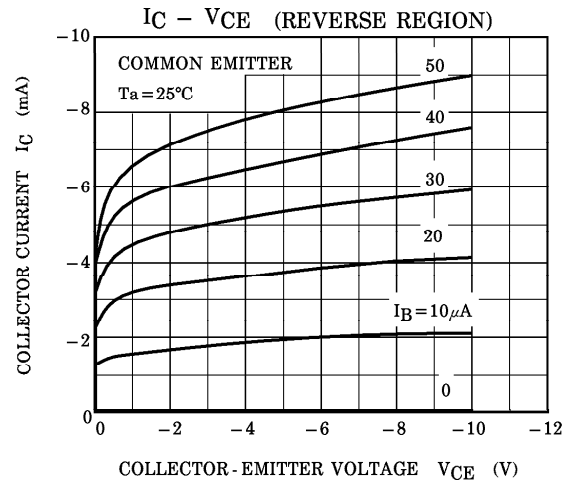
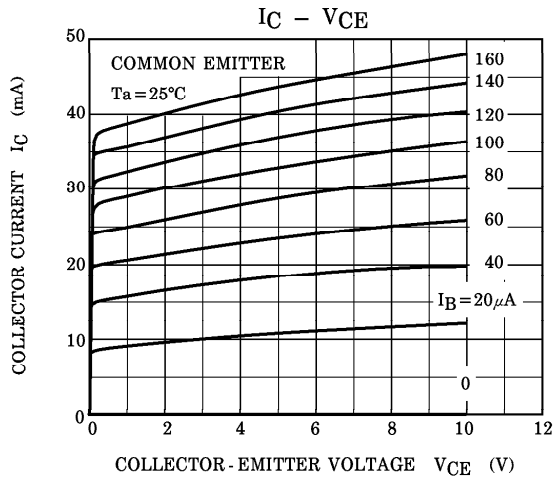
MARKING



EQUIVALENT CIRCUIT (TOP VIEW)

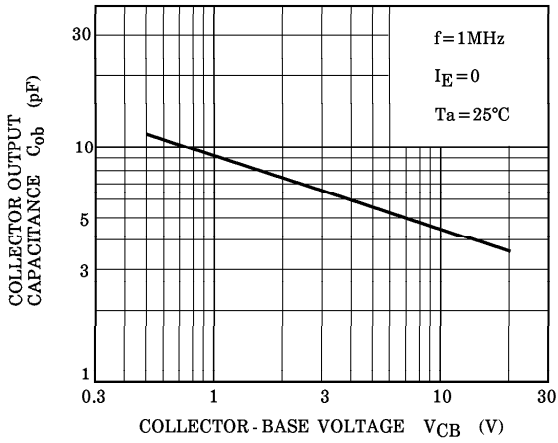


(Q1, Q2 COMMON)

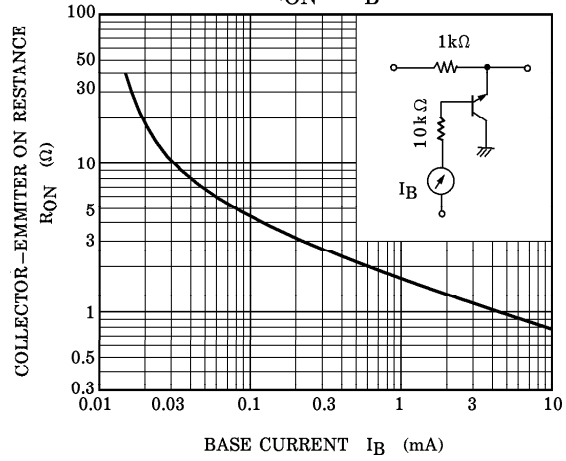


(Q1, Q2 COMMON)

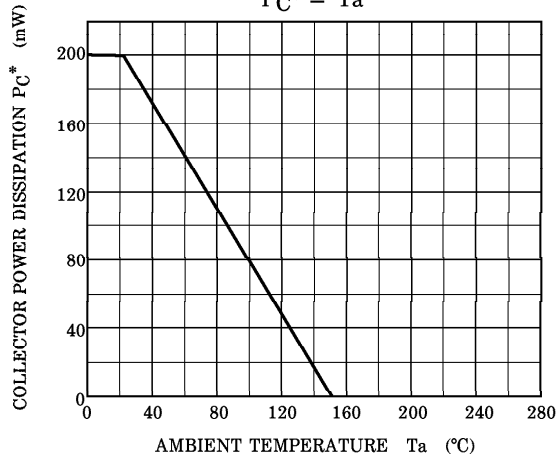
$C_{ob} - V_{CB}$



$R_{ON} - I_B$



$P_C^* - T_a$



*: Total Rating