

**TOSHIBA**

**HN1C03F**

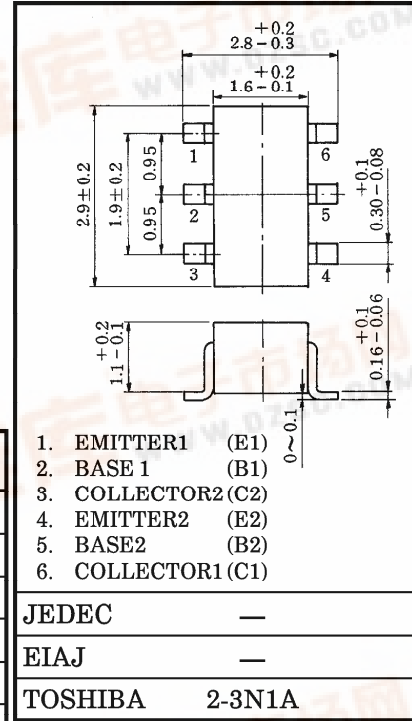
TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

# HN1C03F

FOR MUTING AND SWITCHING APPLICATIONS.

Unit in mm

- Including Two Devices in SM6 (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	$P_C^*$	300	mW
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ C$

Weight : 0.015g

\* Total Rating

961001FAA2

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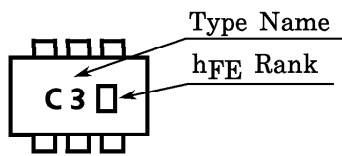


ELECTRICAL CHARACTERISTICS (Ta = 25°C) (Q1, Q2 COMMON)

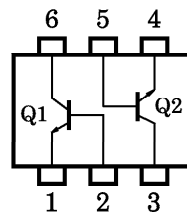
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		$I_{CBO}$	$V_{CB} = 50V, I_E = 0$	—	—	0.1	$\mu A$
Emitter Cut-off Current		$I_{EBO}$	$V_{EB} = 25V, I_C = 0$	—	—	0.1	$\mu A$
DC Current Gain		$h_{FE}(\text{Note})$	$V_{CE} = 2V, I_C = 4mA$	200	—	1200	
Collector-Emitter 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

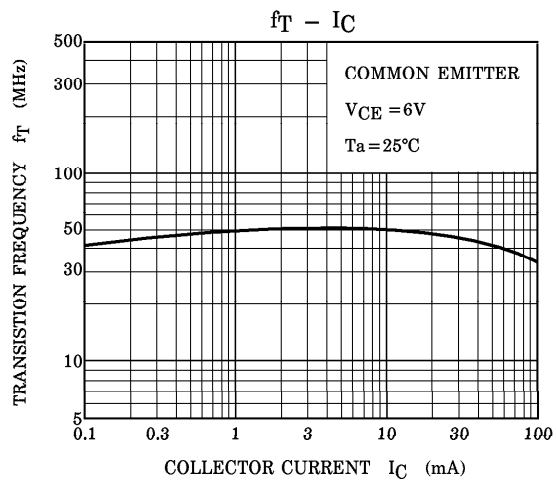
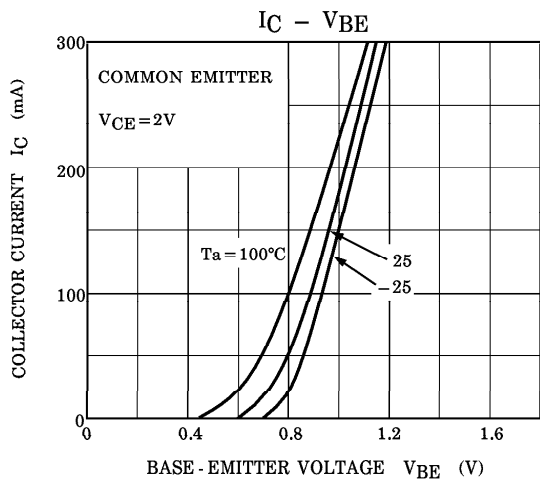
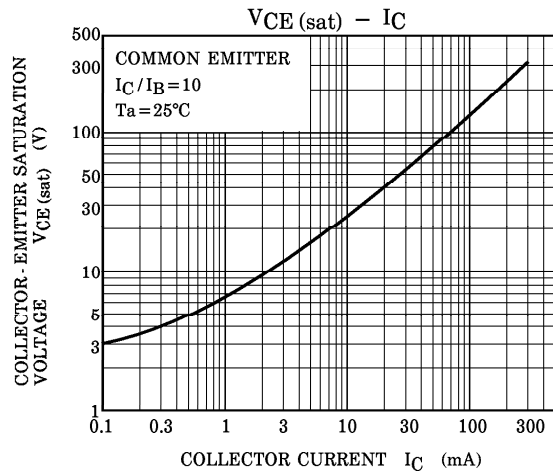
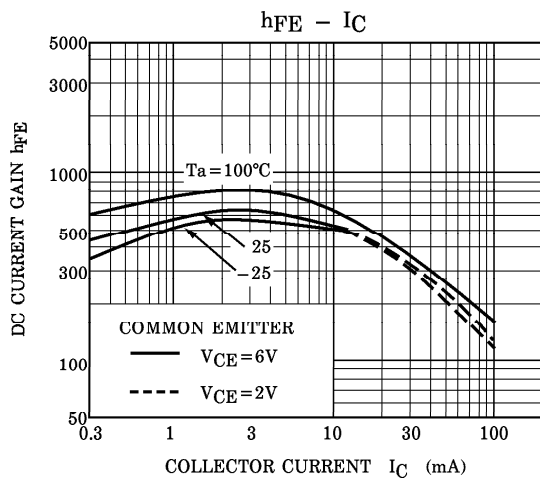
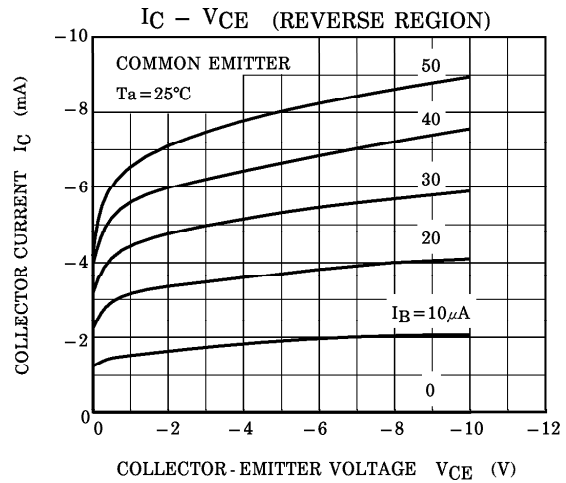
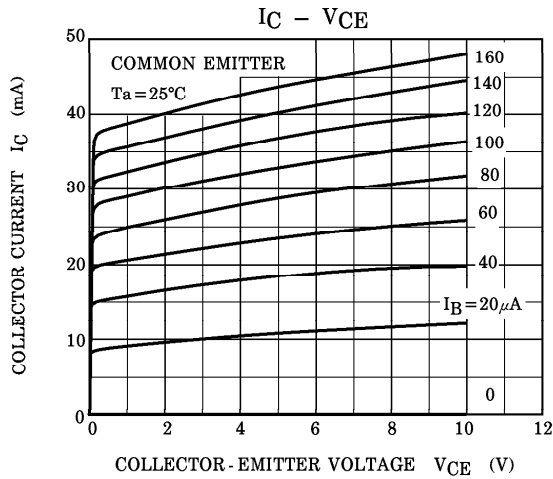
MARKING



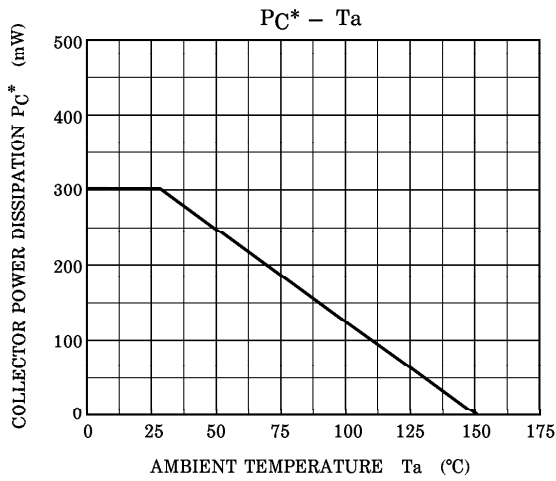
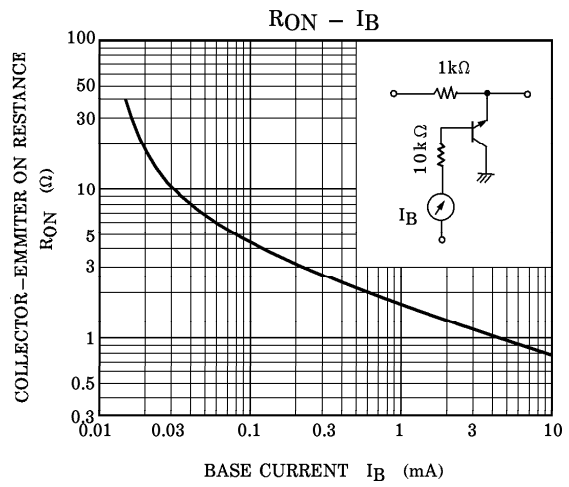
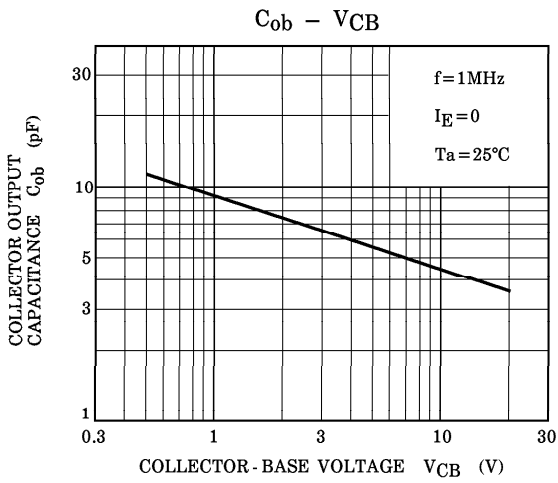
EQUIVALENT CIRCUIT (TOP VIEW)



(Q1, Q2 COMMON)



(Q1, Q2 COMMON)



\*: Total Rating