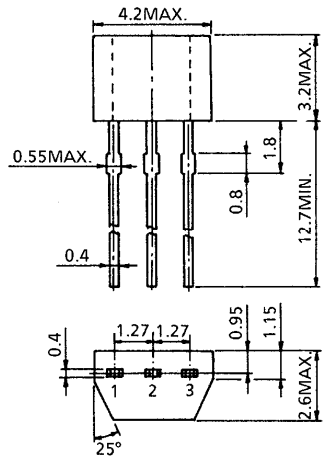
TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

2SC3327

FOR MUTING AND SWITCHING APPLICATIONS

Unit in mm

- High Emitter-Base Voltage : V_{EBO} = 25V (Min.)
- High Reverse h_{FE} : h_{FE} = 150 (Typ.) (V_{CE} = −2V, I_C = −4mA)
- Low On Resistance : R_{ON} = 1Ω (Typ.) (I_B = 5mA)
- Small Package



1. EMITTER
2. COLLECTOR
3. BASE

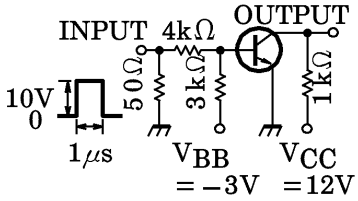
JEDEC	—
EIAJ	—
TOSHIBA	2-4E1A

Weight : 0.13g

MAXIMUM RATINGS (Ta = 25°C)

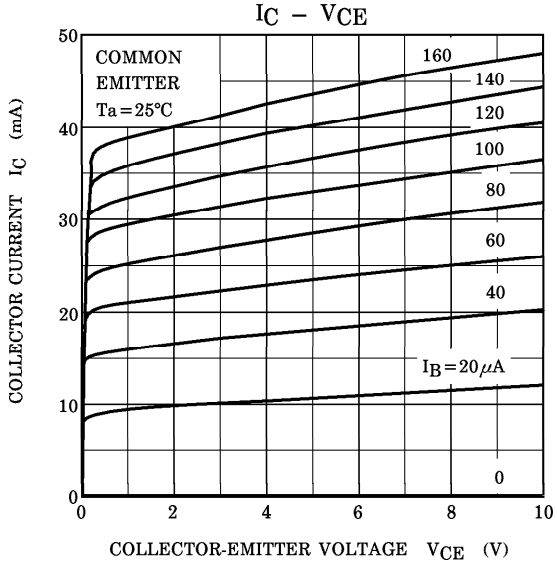
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	25	V
Collector Current	I_C	300	mA
Base Current	I_B	60	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	−55~125	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

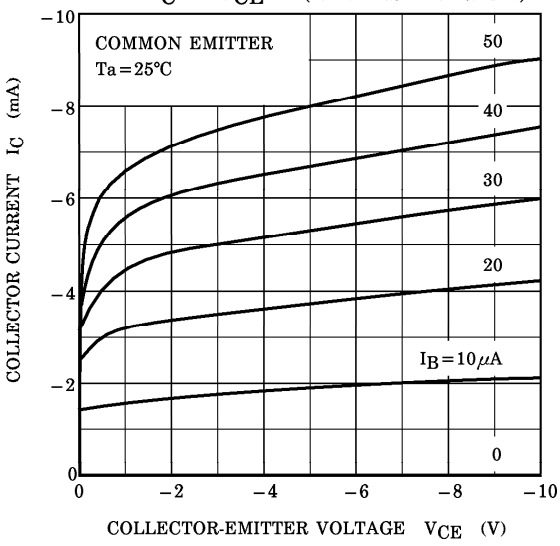
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB} = 50V, I_E = 0	—	—	0.1	μA
Emitter Cut-off Current		I_{EBO}	V_{EB} = 25V, I_C = 0	—	—	0.1	μA
DC Current Gain		h_{FE} (Note)	V_{CE} = 2V, I_C = 4mA	200	—	1200	
Collector-Emitter Sturation Voltage		$V_{CE\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

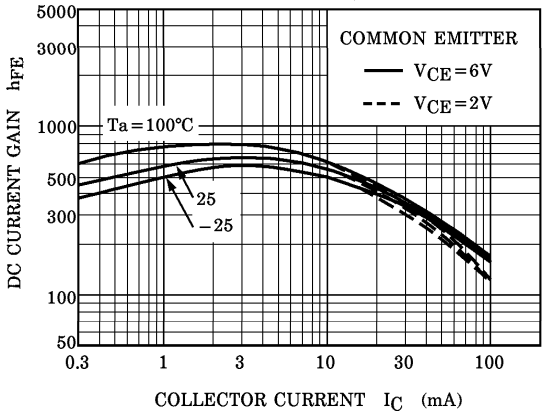
$I_C - V_{CE}$



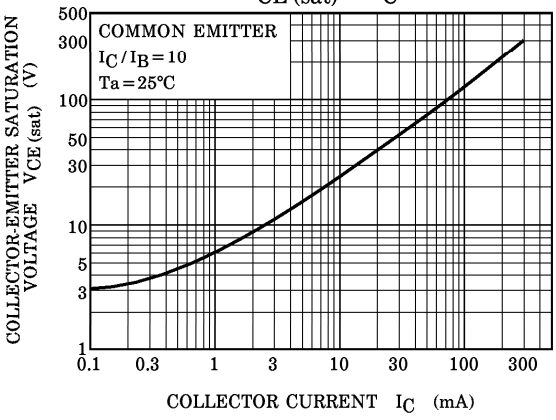
$I_C - V_{CE}$ (REVERSE REGION)



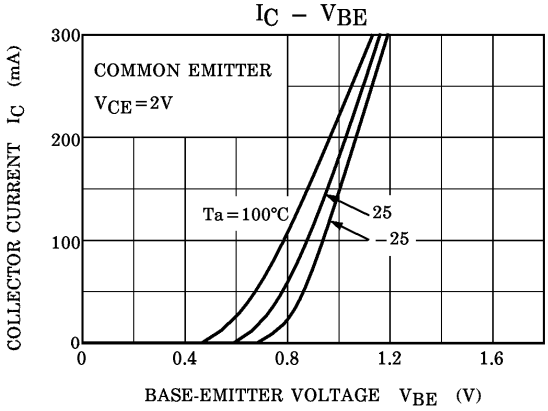
$h_{FE} - I_C$



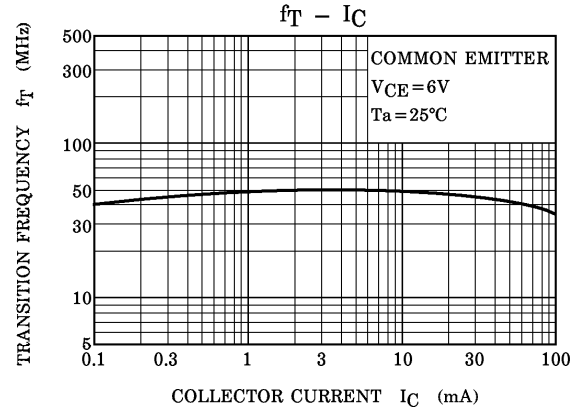
$V_{CE\,(sat)} - I_C$

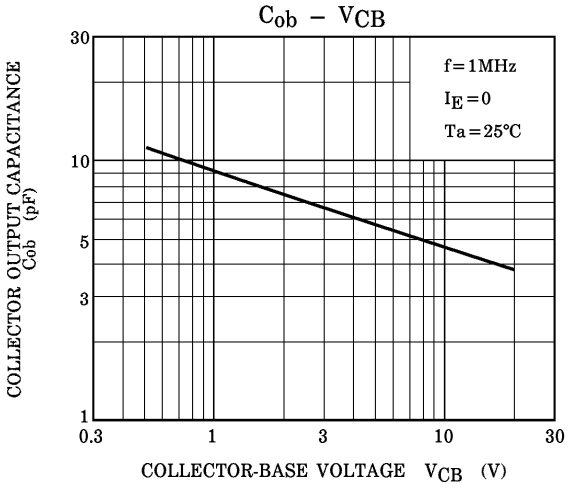


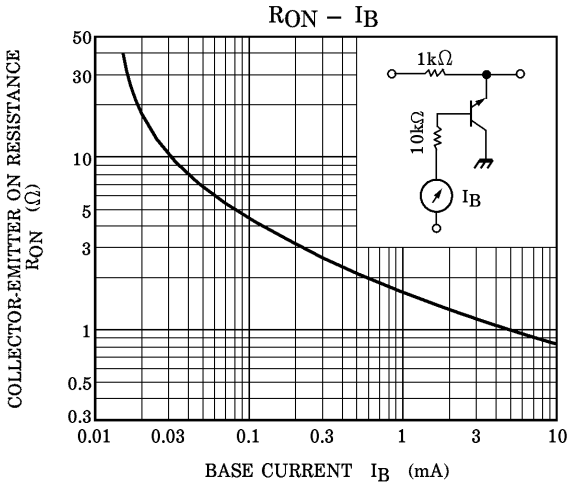
$I_C - V_{BE}$

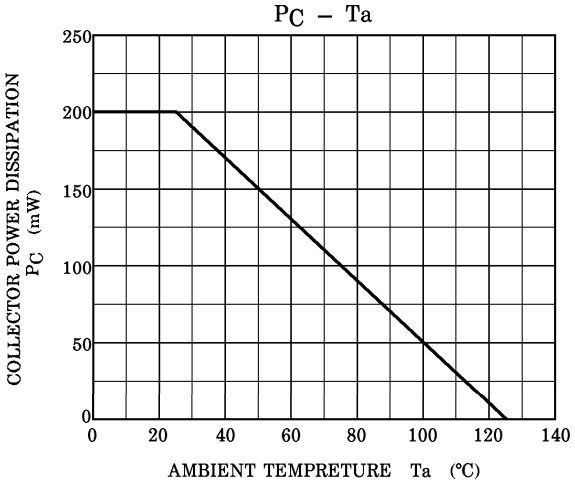


$f_T - I_C$




C_{ob} – V_{CB}
f = 1MHz
I_E = 0
Ta = 25°C
COLLECTOR OUTPUT CAPACITANCE C_{ob} (pF)
COLLECTOR-BASE VOLTAGE V_{CB} (V)
30
10
5
3
1
0.3
1
3
10
30


R_{ON} – I_B
1kΩ
10kΩ
I_B
COLLECTOR-EMITTER ON RESISTANCE R_{ON} (Ω)
BASE CURRENT I_B (mA)
50
30
10
5
3
1
0.5
0.3
0.01
0.03
0.1
0.3
1
3
10


P_C – Ta
COLLECTOR POWER DISSIPATION P_C (mW)
AMBIENT TEMPRETURE Ta (°C)
250
200
150
100
50
0
0
20
40
60
80
100
120
140

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