

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

2SC4213

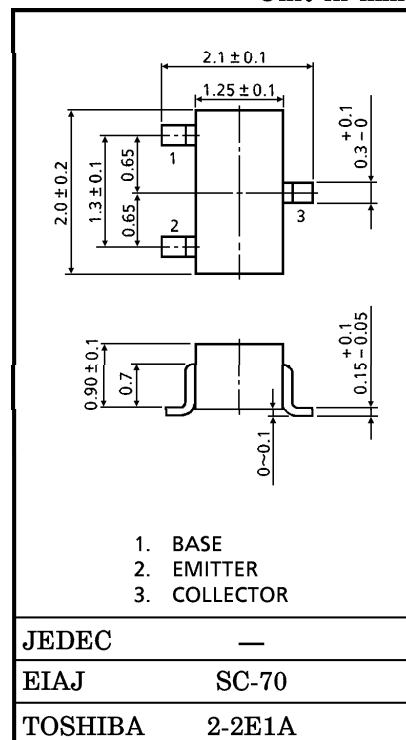
FOR MUTING AND SWITCHING APPLICATIONS

Unit in mm

- 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.) ($I_B = 5mA$)
- High DC Current Gain : $h_{FE} = 200 \sim 1200$
- Small Package

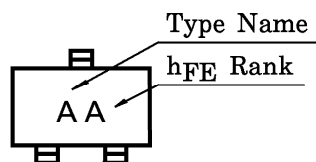
MAXIMUM RATINGS ($T_a = 25^\circ C$)

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	100	mW
Junction Temperature	T_j	125	$^\circ C$
Storage Temperature Range	T_{stg}	-55~125	$^\circ C$



Weight : 0.006g

MARKING



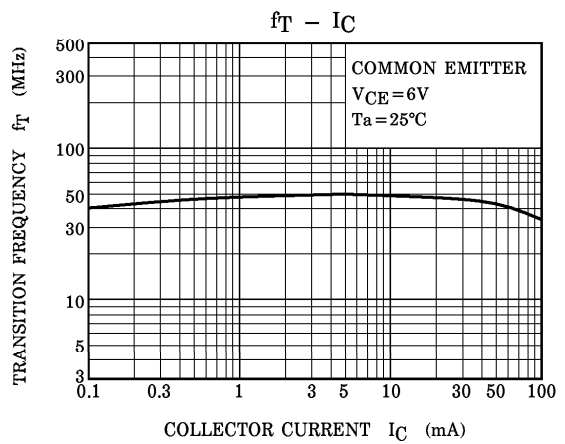
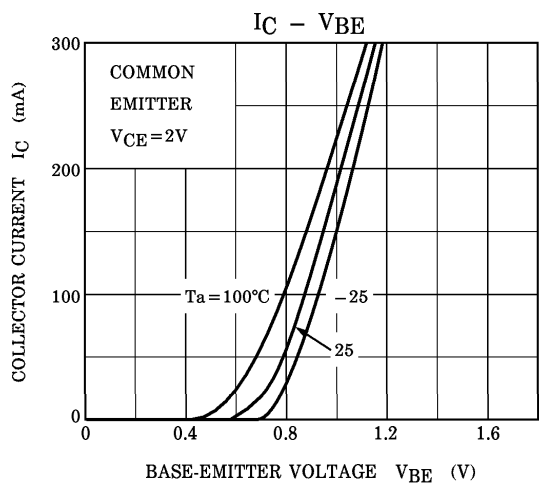
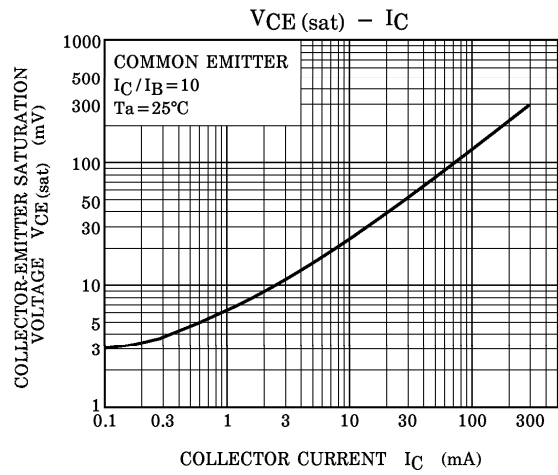
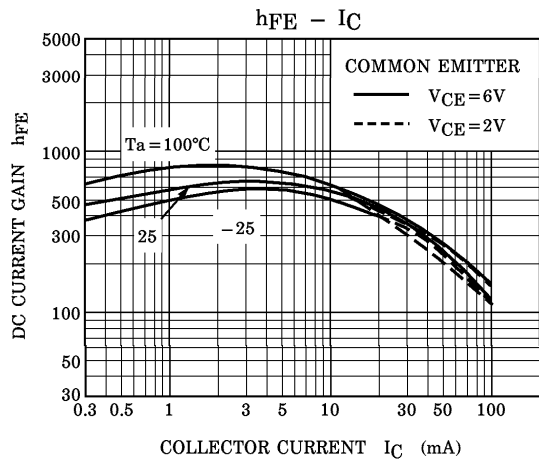
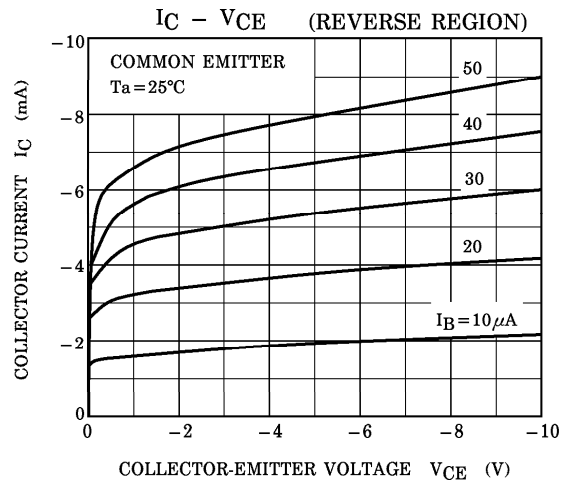
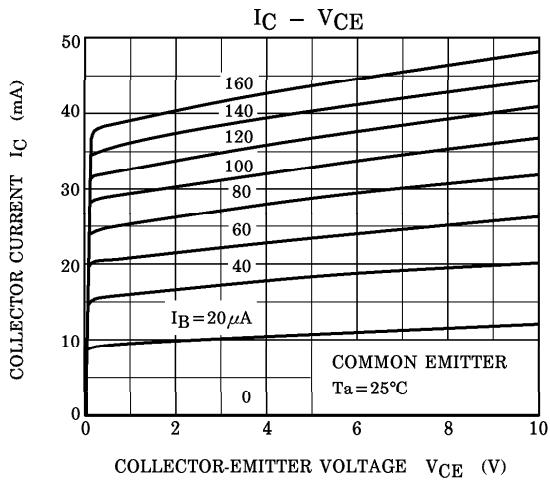
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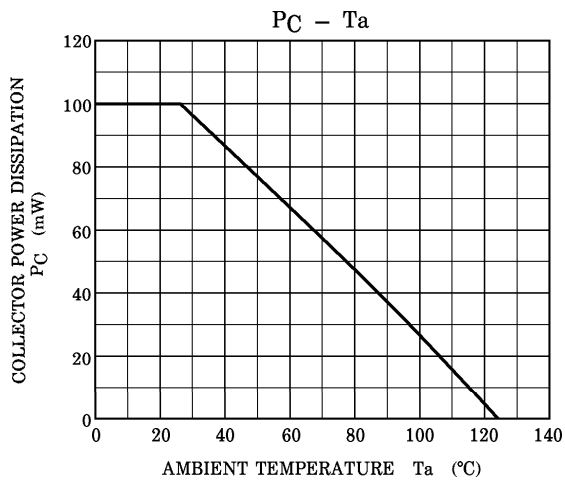
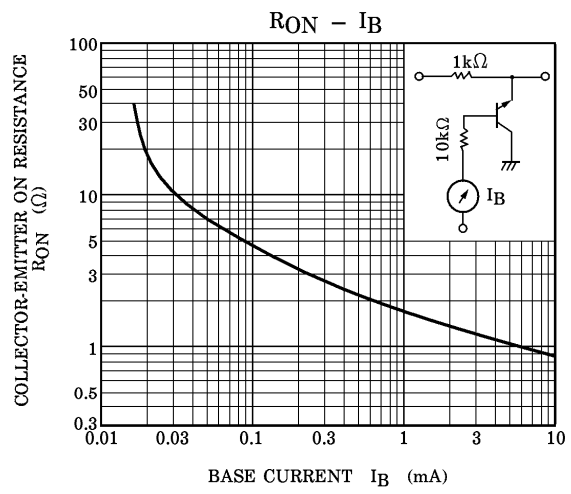
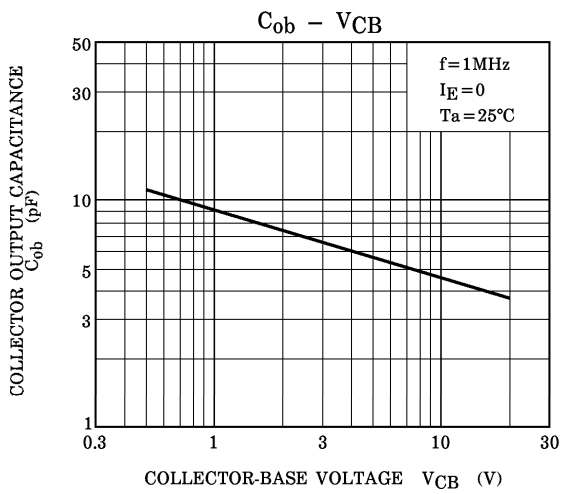
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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = 50V, I_E = 0$	—	—	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 Saturation Voltage		$V_{CE(sat)}$	$I_C = 30A, I_B = 3mA$	—	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}	<p>DUTY CYCLE $\leq 2\%$</p>	—	160	—	ns
	Storage Time	t_{stg}		—	500	—	
	Fall Time	t_f		—	130	—	

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





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