TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

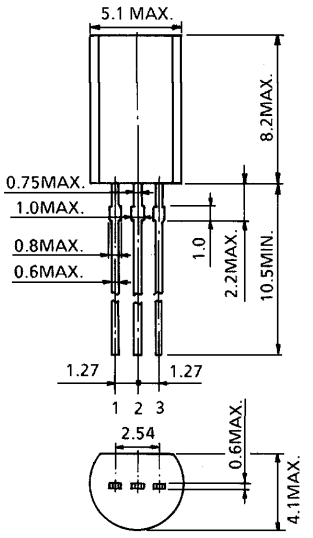
2SC3225

SWITCHING APPLICTIONS

SOLENOID DRIVE APPLICATIONS

- High DC Current Gain : h_{FE} = 500 (Min.) (I_C = 400 mA)
- Low Saturation Voltage : $V_{CE\ (sat)}$ = 0.5 V (Max.) (I_C = 300 mA)

Unit in mm



1. EMITTER
2. COLLECTOR
3. BASE

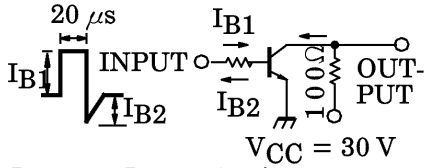
JEDEC	TO-92MOD
JEITA	—
TOSHIBA	2-5J1A

Weight : 0.36 g (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

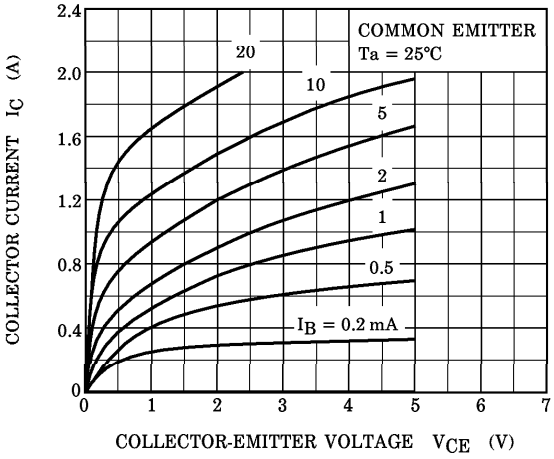
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector Current	I_C	2	A
Base Current	I_B	0.5	A
Collector Power Dissipation	P_C	900	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	−55~150	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

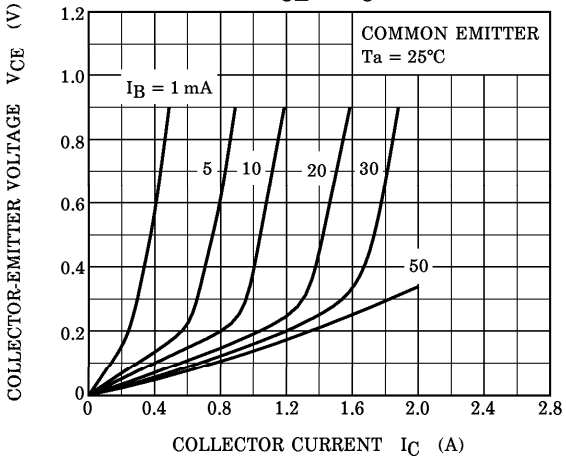
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB} = 40 V, I_E = 0	—	—	10	μA
Emitter Cut-off Current		I_{EBO}	V_{EB} = 7 V, I_C = 0	—	—	1	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)\ CEO}$	I_C = 10 mA, I_B = 0	40	—	—	V
DC Current Gain		h_{FE}	V_{CE} = 1 V, I_C = 400 mA	500	—	—	
Collector-Emitter Saturation Voltage		$V_{CE\ (sat)}$	I_C = 300 mA, I_B = 1 mA	—	0.3	0.5	V
Base-Emitter Saturation Voltage		$V_{BE\ (sat)}$	I_C = 300 mA, I_B = 1 mA	—	—	1.1	V
Transition Frequency		f_T	V_{CE} = 2 V, I_C = 100 mA	—	220	—	MHz
Collector Output Capacitance		C_{ob}	V_{CB} = 10 V, I_E = 0, f = 1 MHz	—	20	—	pF
Switching Time	Trun-On Time	t_{on}		—	1.0	—	μs
	Storage Time	t_{stg}		—	3.0		
	Fall Time	t_f		—	1.2	—	

I_{B1} = −I_{B2} = 1 mA
DUTY CYCLE ≦ 1%

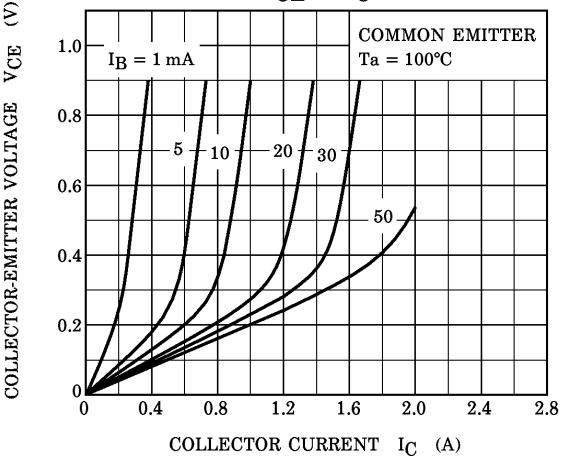
I_C – V_{CE}



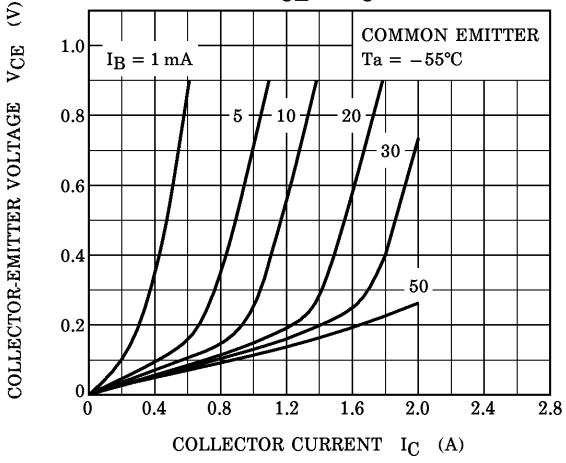
V_{CE} – I_C



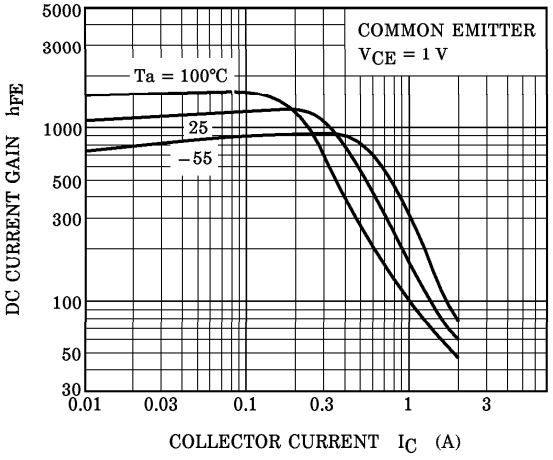
V_{CE} – I_C



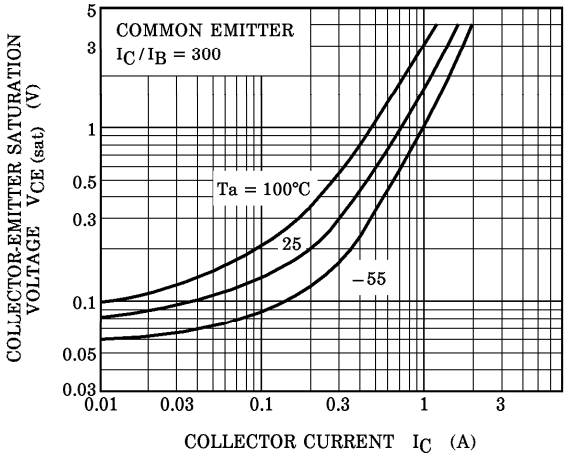
V_{CE} – I_C



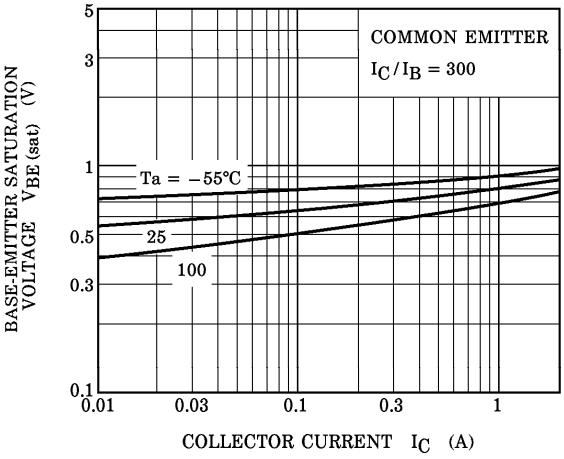
h_{FE} – I_C



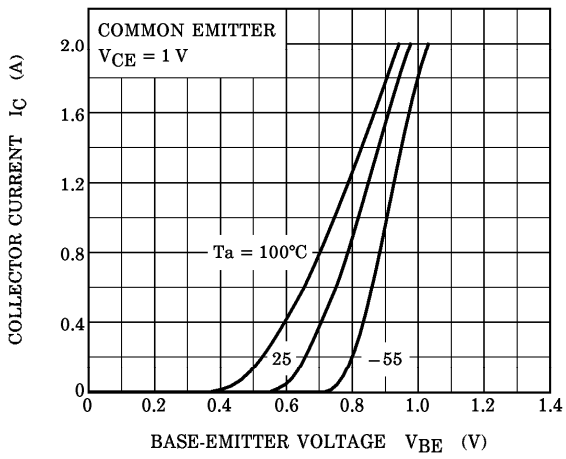
$V_{CE\,(sat)}$ – I_C



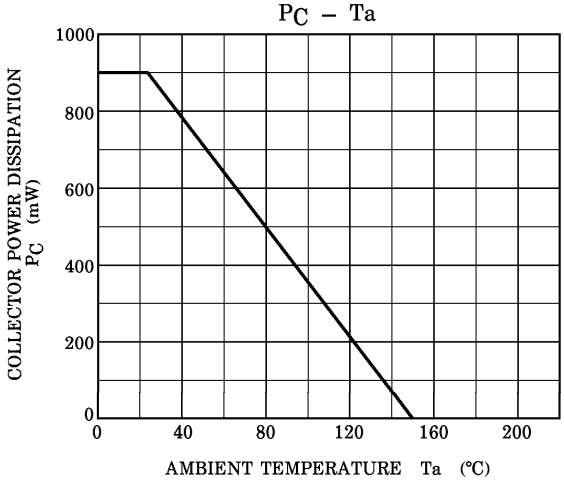
$V_{BE\,(sat)}$ – I_C



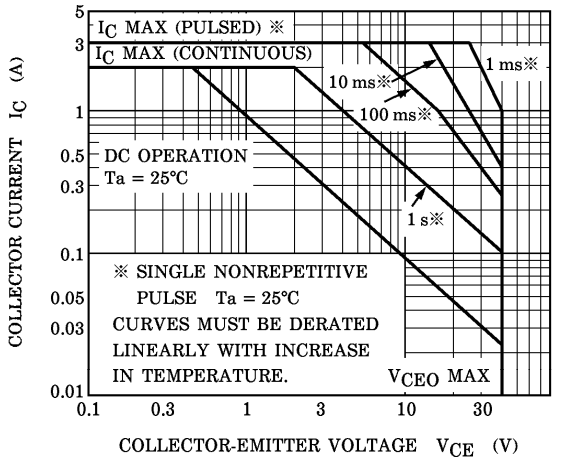
I_C – V_{BE}



P_C – Ta



SAFE OPERATING AREA



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