

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

2SC3225

SWITCHING APPLICTIONS

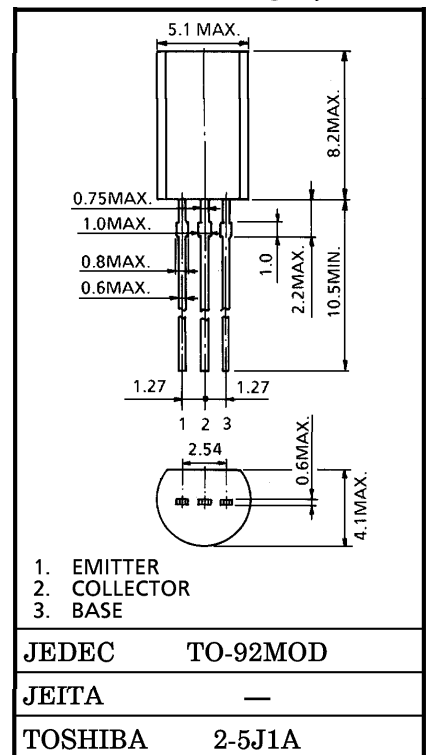
SOLENOID DRIVE APPLICATIONS

- 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)

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

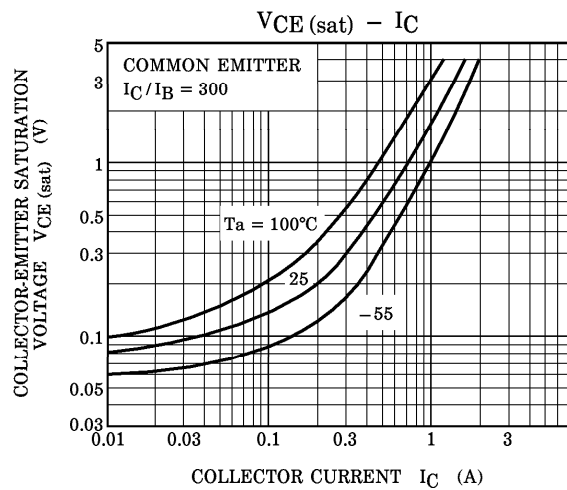
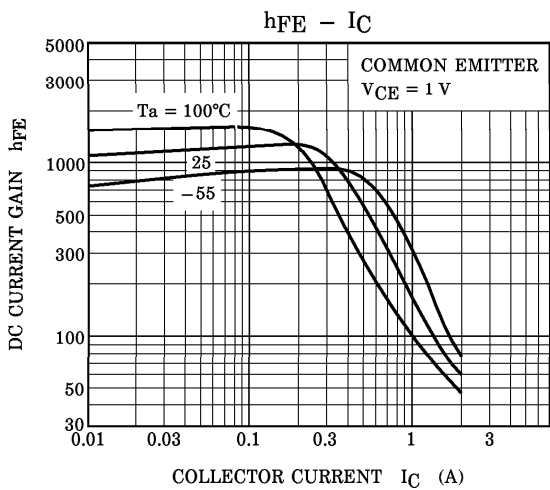
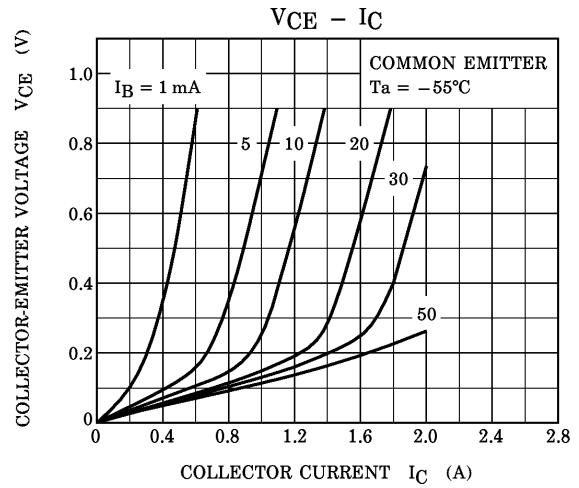
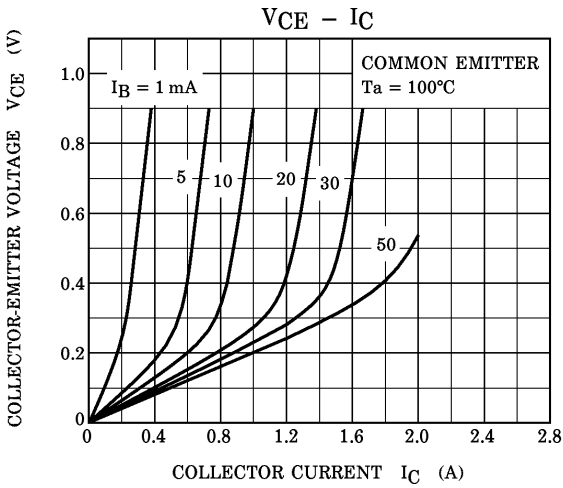
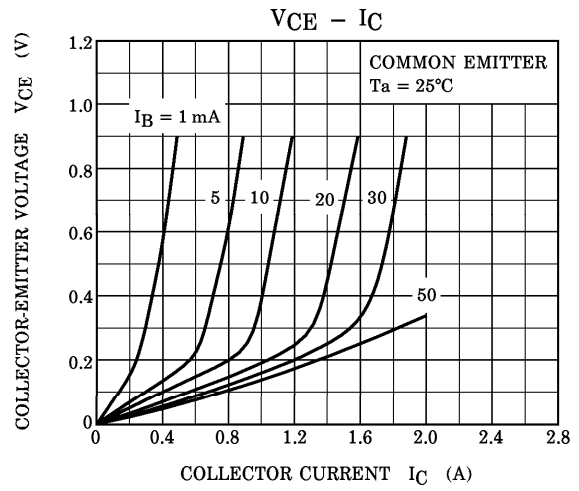
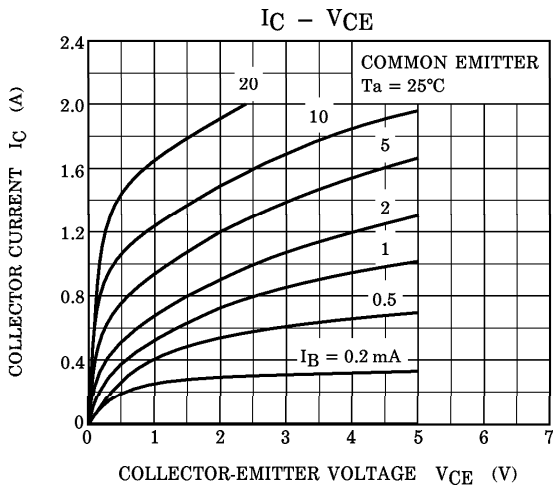
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector Current	I_C	2	A
Base Current	I_B	0.5	A
Collector Power Dissipation	P_C	900	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range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

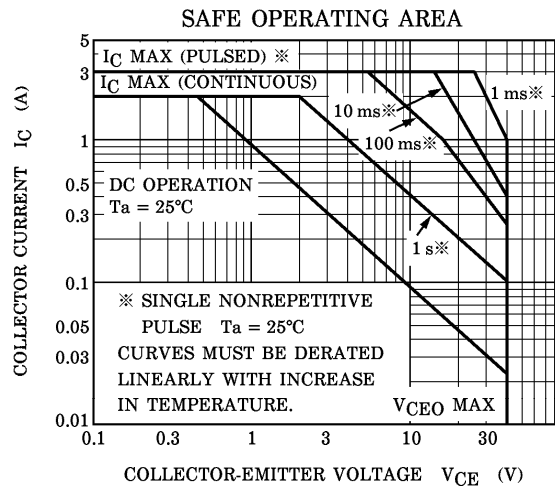
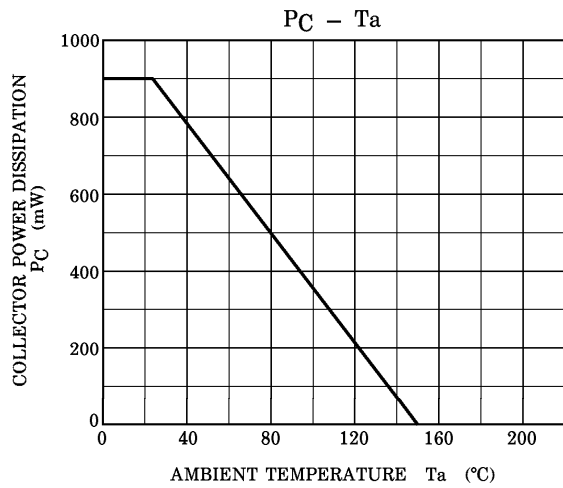
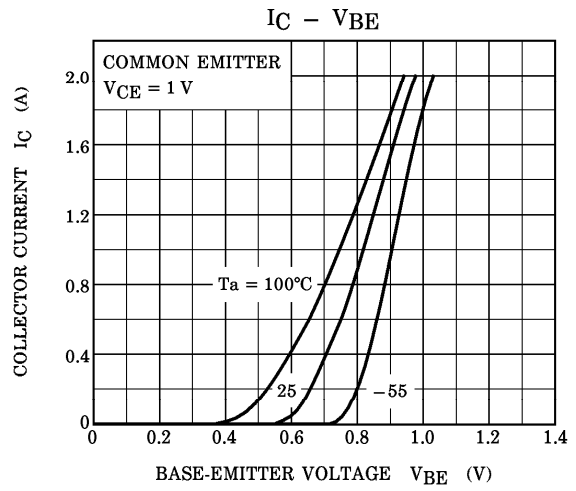
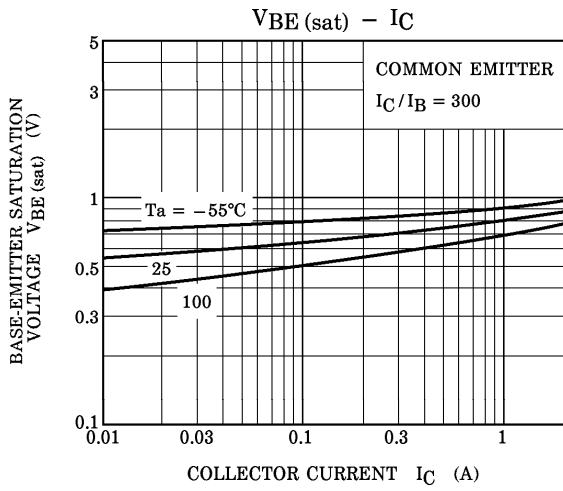
Unit in mm



ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

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	—	





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