

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

# 2SC3225

SWITCHING APPLICATIONS.

SOLENOID DRIVE APPLICATIONS.

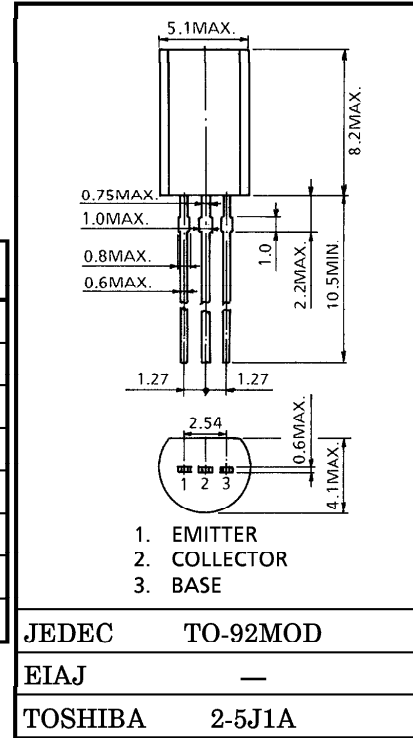
INDUSTRIAL APPLICATIONS

Unit in mm

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

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

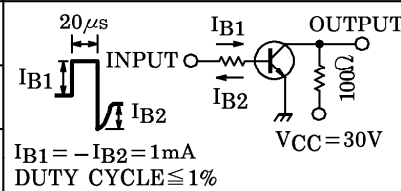
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	40	V
Collector-Emitter Voltage	$V_{CEO}$	40	V
Emitter-Base Voltage	$V_{EBO}$	7	V
Collector Current	$I_C$	2	A
Base Current	$I_B$	0.5	A
Collector Power Dissipation	$P_C$	900	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature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



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

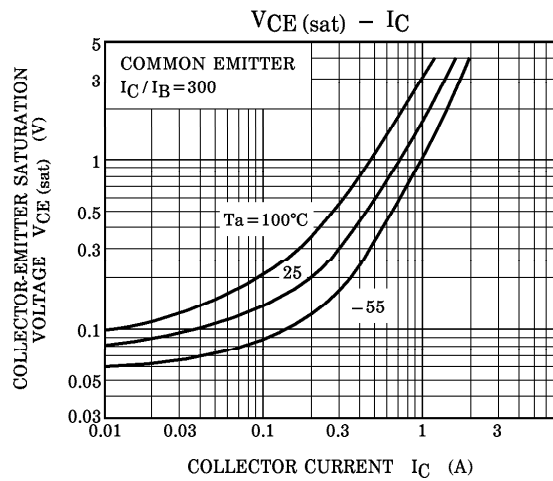
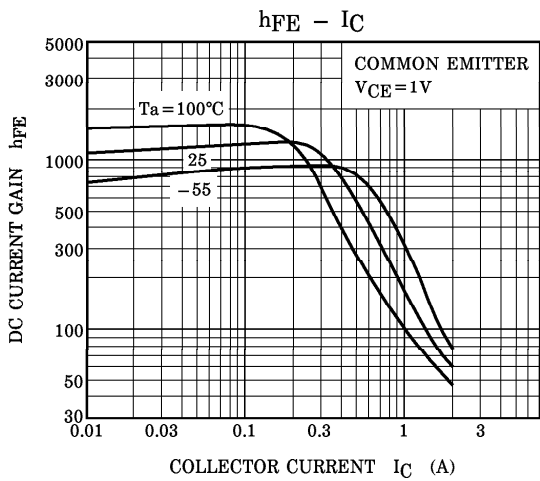
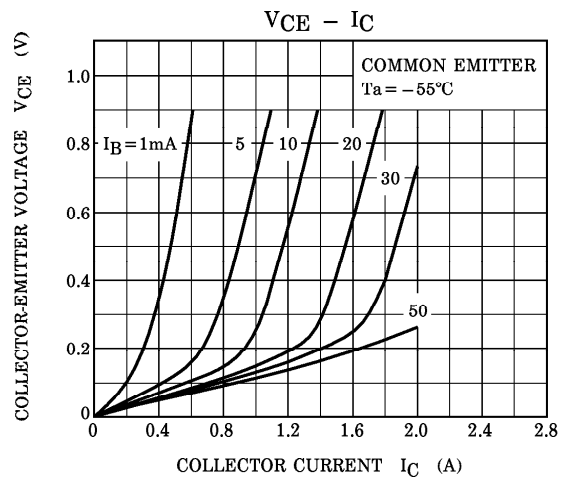
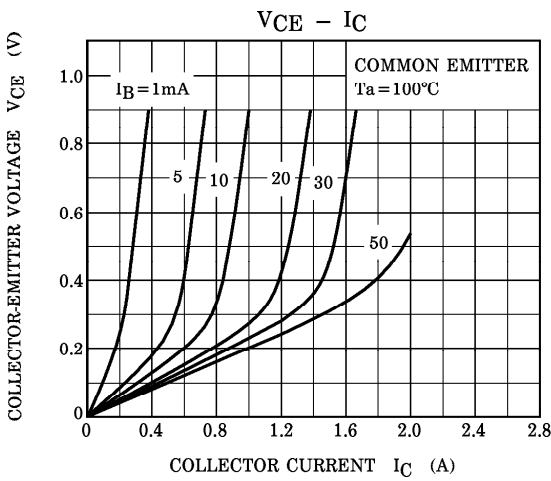
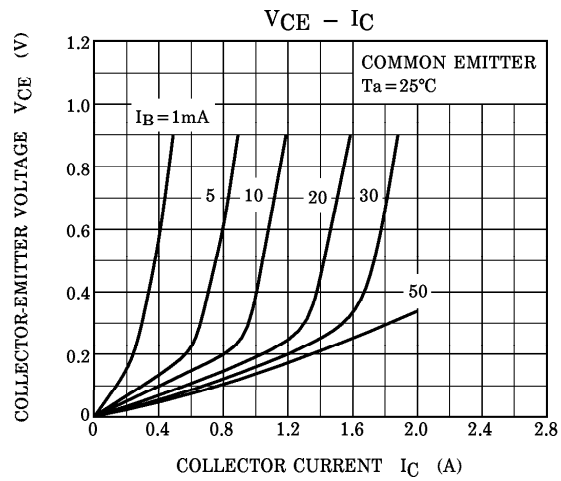
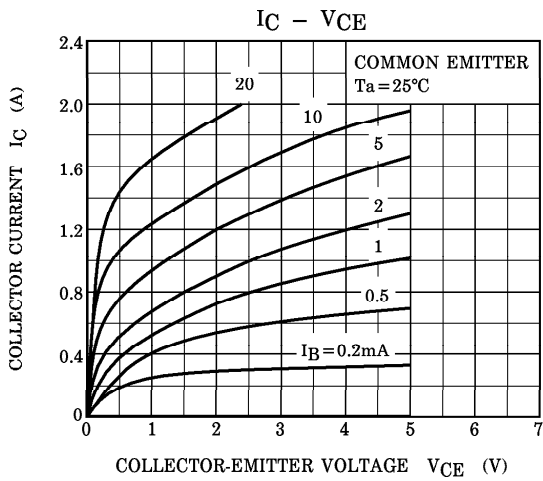
Weight : 0.36g

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



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