

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

2SC3964

SWITCHING APPLICATIONS

Unit in mm

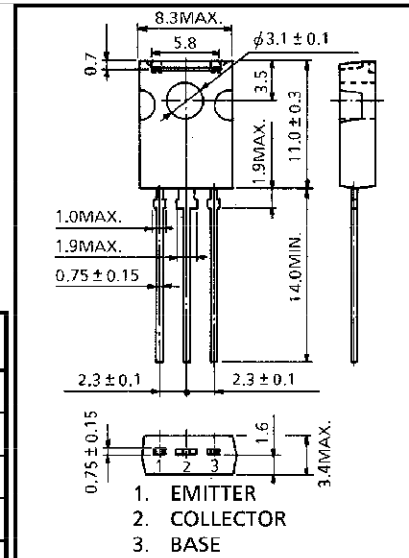
SOLENOID DRIVE APPLICATIONS

TEMPERATURE COMPENSATED FOR AUDIO AMPLIFIER OUTPUT STAGE

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

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

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	1.5	W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55~150	$^\circ C$



JEDEC	—
EIAJ	—
TOSHIBA	2-8H1A

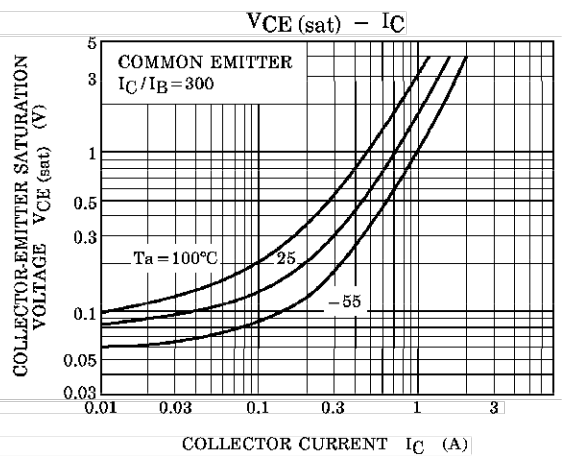
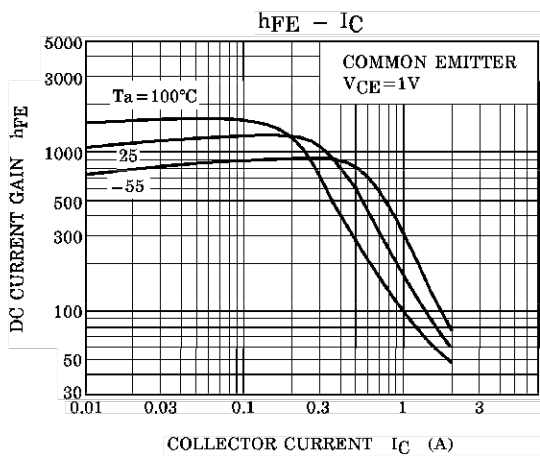
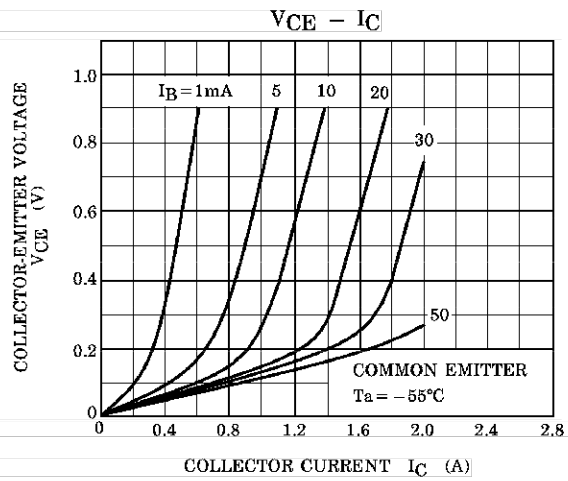
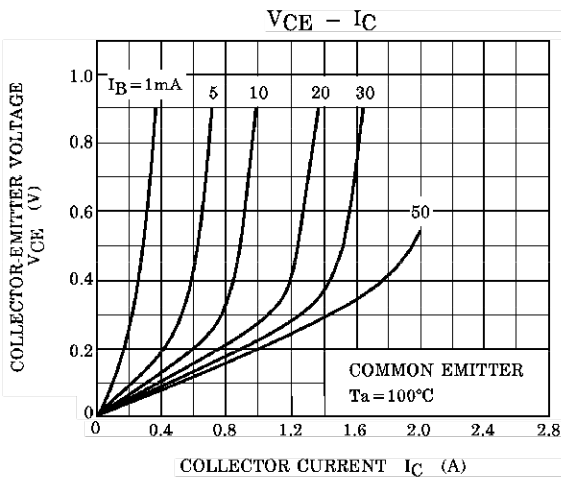
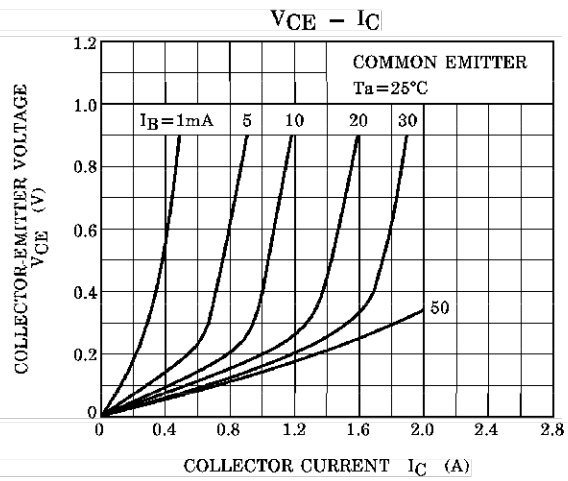
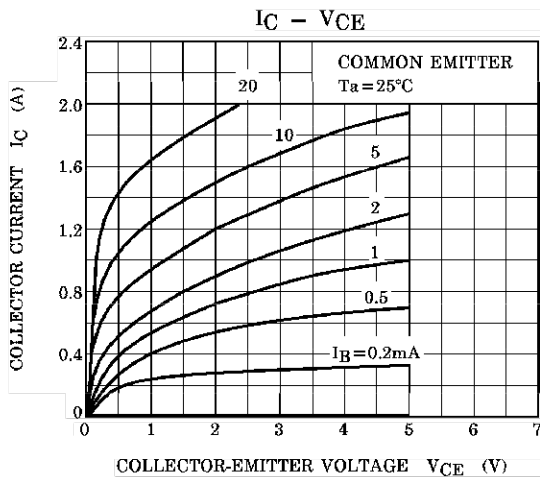
Weight : 0.82g (Typ.)

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

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

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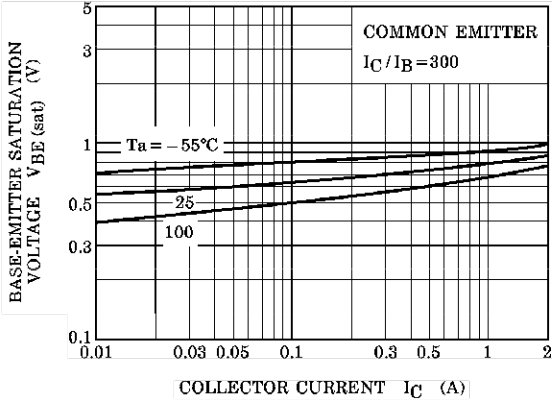


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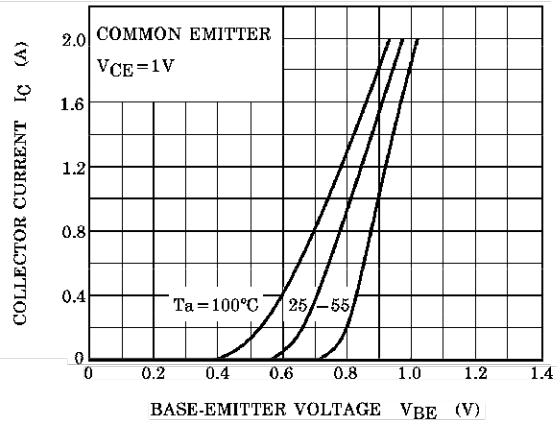
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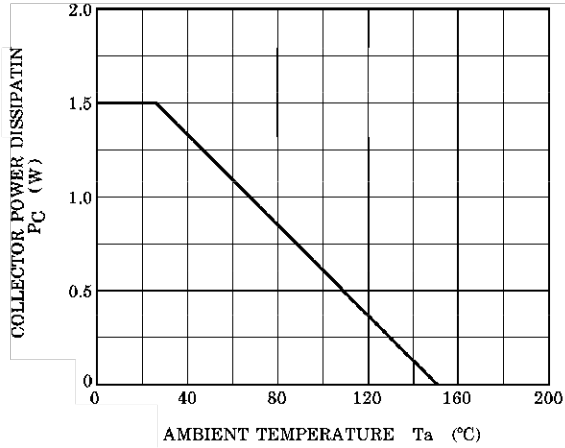
V_{BE}(sat) - I_C



I_C - V_{BE}



P_C - Ta



SAFE OPERATING AREA

