TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE (PCT PROCESS)

2SC5356

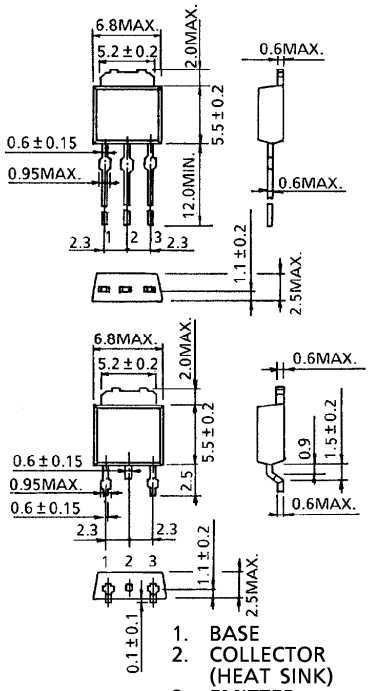
SWITCHING REGULATOR APPLICATIONS
HIGH VOLTAGE SWITCHING APPLICATIONS
DC-DC CONVERTER APPLICATIONS

- Excellent Switching Times : $t_f = 0.5\ \mu s$ (Max.) ($I_C = 1.2$ A)
- High Collectors Breakdown Voltage : $V_{CEO} = 800$ V
- High DC Current Gain : $h_{FE} = 15$ (Min.) ($I_C = 0.15$ A)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	900	V
Collector-Emitter Voltage		V_{CEO}	800	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current	DC	I_C	3	A
	Pulse	I_{CP}	5	
Base Current		I_B	1	A
Collector Power Dissipation	Ta = 25°C	P_C	1.5	W
	Tc = 25°C		25	
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55~150	°C

Unit in mm

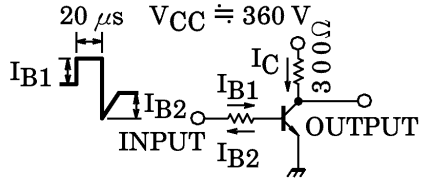


1. BASE
2. COLLECTOR (HEAT SINK)
3. EMITTER

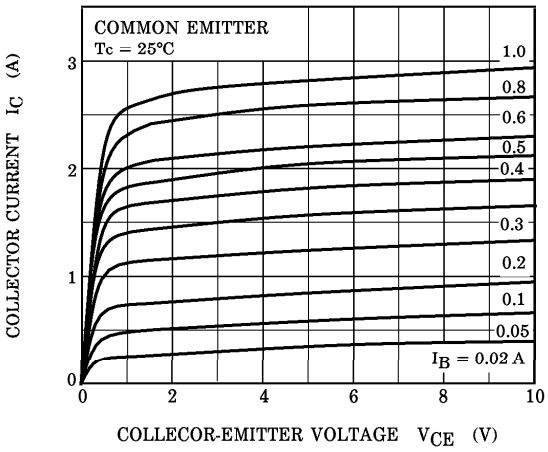
JEDEC	—
EIAJ	—
TOSHIBA	(A) 2-7B5A (B) 2-7B6A

961001EAA1

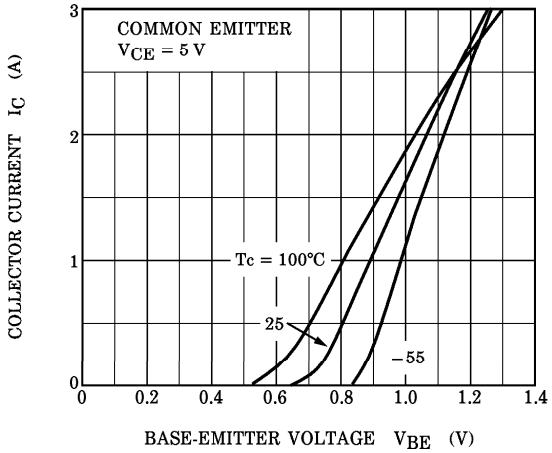
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB} = 720 V, I_E = 0	—	—	100	μA
Emitter Cut-off Current		I_{EBO}	V_{EB} = 7 V, I_C = 0	—	—	10	μA
Collector-Base Breakdown Voltage		$V_{(BR)\,CBO}$	I_C = 1 mA, I_B = 0	900	—	—	V
Collector-Emitter Breakdown Voltage		$V_{(BR)\,CEO}$	I_C = 10 mA, I_B = 0	800	—	—	V
DC Current Gain		h_{FE} (1)	V_{CE} = 5 V, I_C = 1 mA	10	—	—	
		h_{FE} (2)	V_{CE} = 5 V, I_C = 0.15 A	15			
Collector-Emitter Saturation Voltage		$V_{CE\,(sat)}$	I_C = 1.2 A, I_B = 0.24 A	—	—	1.0	V
Base-Emitter Saturation Voltage		$V_{BE\,(sat)}$	I_C = 1.2 A, I_B = 0.24 A	—	—	1.3	V
Switching Time	Rise Time	t_r		—	—	0.7	μs
	Storage Time	t_{stg}		—	—	4.0	
	Fall Time	t_f	I_{B1} = 0.24 A, I_{B2} = −0.48 A DUTY CYCLE ≦ 1%	—	—	0.5	

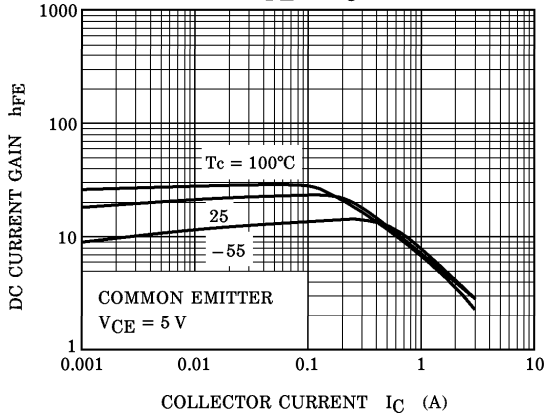
$I_C - V_{CE}$



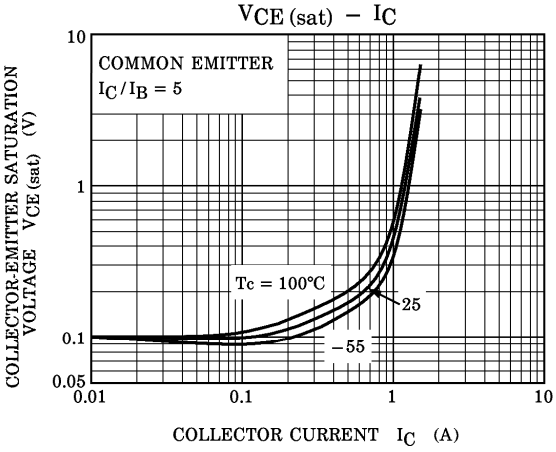
$I_C - V_{BE}$



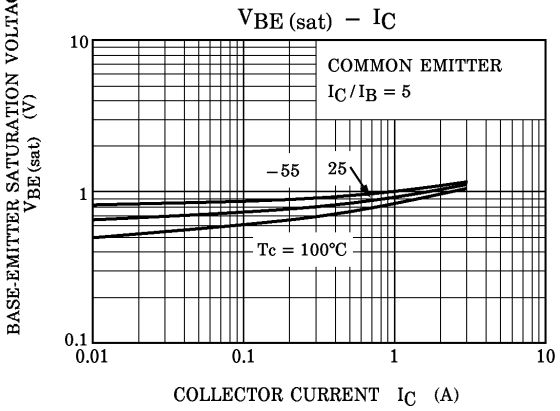
$h_{FE} - I_C$



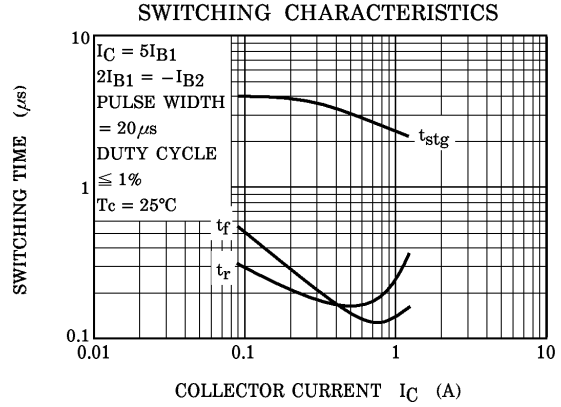
$V_{CE\,(sat)} - I_C$



$V_{BE\,(sat)} - I_C$



SWITCHING CHARACTERISTICS



SAFE OPERATING AREA