TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

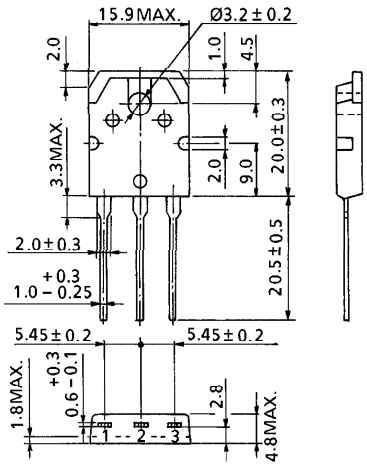
2SC5352

SWITCHING REGULATOR AND HIGH VOLTAGE SWITCHING APPLICATIONS

HIGH SPEED DC-DC CONVERTER APPLICATIONS

- Excellent Switching Times
  : $t_r = 0.5\ \mu s$ (Max.), $t_f = 0.3\ \mu s$ (Max.) ($I_C = 4$ A)
- High Collectors Breakdown Voltage : $V_{CEO} = 400$ V

Unit in mm



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

JEDEC	—
EIAJ	—
TOSHIBA	2-16C1A

Weight : 4.7 g

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	600	V
Collector-Emitter Voltage		V_{CEO}	400	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current	DC	I_C	10	A
	Pulse	I_{CP}	15	
Base Current		I_B	5	A
Collector Power Dissipation (Tc = 25°C)		P_C	80	W
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55~150	°C

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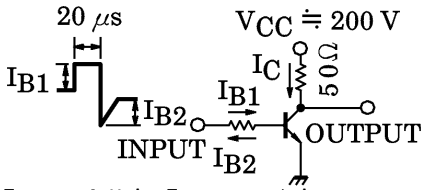
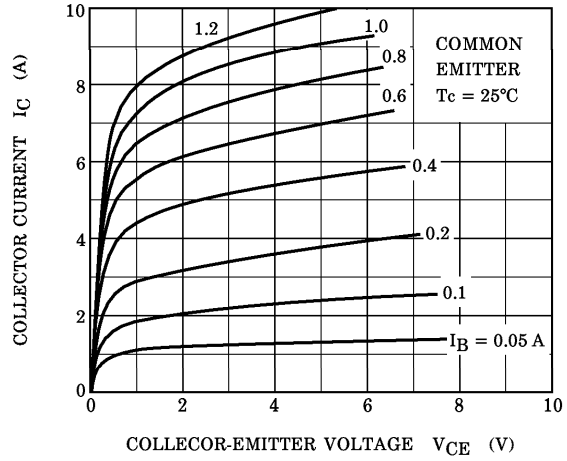
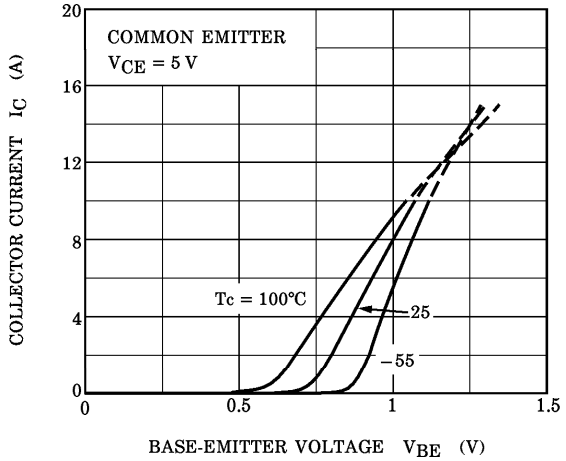
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB} = 480 V, I_E = 0	—	—	100	μA
Emitter Cut-off Current		I_{EBO}	V_{EB} = 7 V, I_C = 0	—	—	1	mA
Collector-Base Breakdown Voltage		$V_{(BR)\,CBO}$	I_C = 1 mA, I_E = 0	600	—	—	V
Collector-Emitter Breakdown Voltage		$V_{(BR)\,CEO}$	I_C = 10 mA, I_B = 0	400	—	—	V
DC Current Gain		h_{FE}	V_{CE} = 5 V, I_C = 1 A	20	—	—	
Collector-Emitter Saturation Voltage		$V_{CE\,(sat)}$	I_C = 4 A, I_B = 0.5 A	—	—	1.0	V
Base-Emitter Saturation Voltage		$V_{BE\,(sat)}$	I_C = 4 A, I_B = 0.5 A	—	—	1.3	V
Switching Time	Rise Time	t_r	 I_{B1} = 0.5 A, I_{B2} = −1 A DUTY CYCLE ≦ 1%	—	—	0.5	μs
	Storage Time	t_{stg}		—	—	2.0	
	Fall Time	t_f		—	—	0.3	

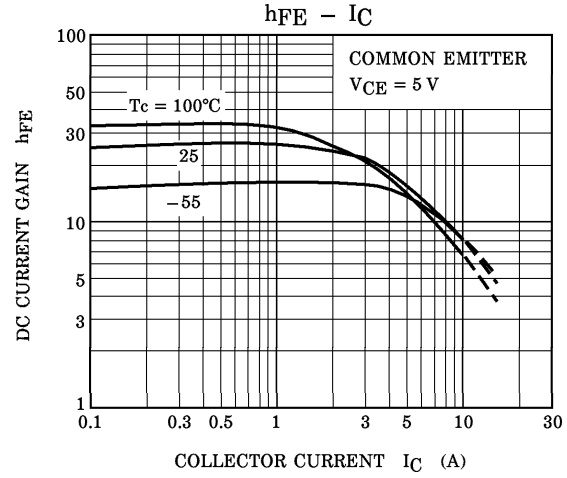
$I_C - V_{CE}$



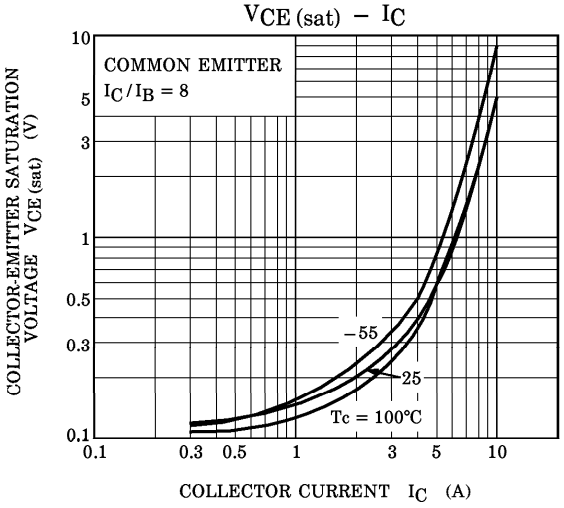
$I_C - V_{BE}$



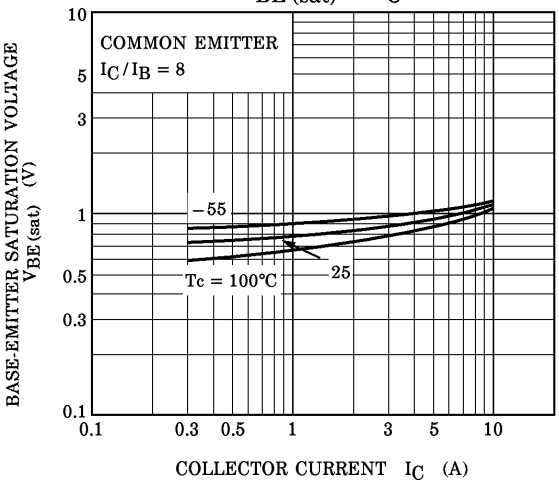
$h_{FE} - I_C$



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



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



SAFE OPERATING AREA