TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

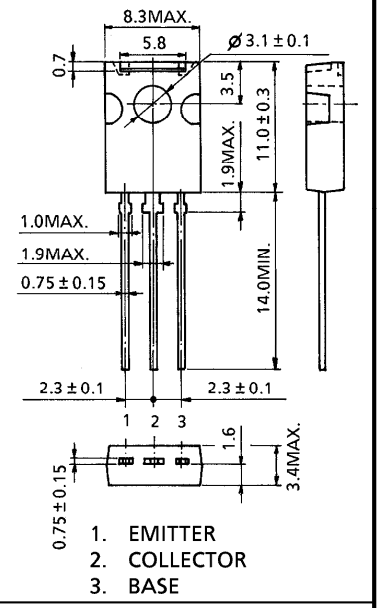
2SC5368

SWITCHING REGULATOR APPLICATIONS

HIGH VOLTAGE SWITCHING APPLICATIONS

DC-DC CONVERTER APPLICATIONS

Unit in mm



JEDEC	—
JEITA	—
TOSHIBA	2-8H1A

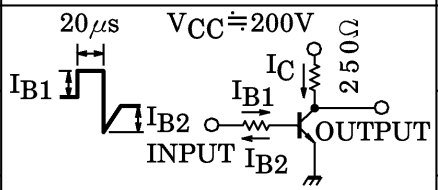
Weight : 0.82 g(Typ.)

- High Speed : $t_r = 0.5\mu s$ (Max.), $t_f = 0.3\mu s$ (Max.) ($I_C = 0.8A$)
- High Collector Breakdown Voltage : $V_{CEO} = 450V$
- High DC Current Gain : $h_{FE} = 20$ (Min.) ($I_C = 0.3A$)

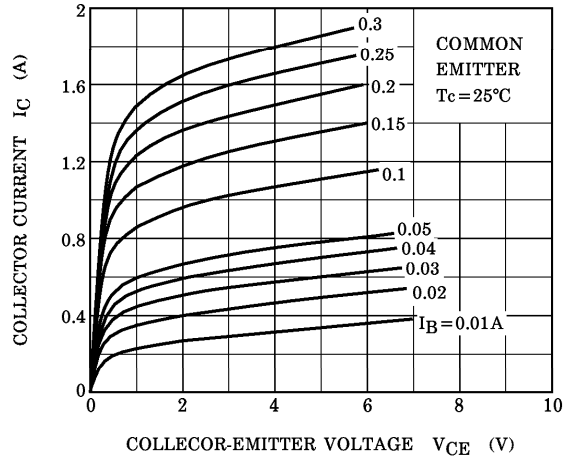
MAXIMUM RATINGS (Tc = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	650	V
Collector-Emitter Voltage		V_{CEO}	450	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current	DC	I_C	2	A
	Pulse	I_{CP}	4	
Base Current		I_B	0.5	A
Collector Power Dissipation	Ta = 25°C	P_C	1.5	W
	Tc = 25°C		10	
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55~150	°C

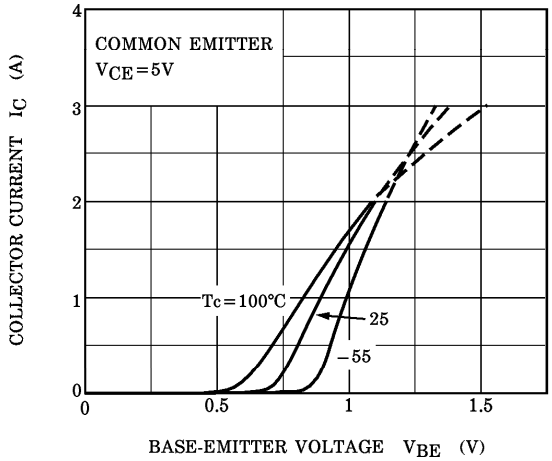
ELECTRICAL CHARACTERISTICS (Tc = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB} = 520V, I_E = 0	—	—	20	μA
Emitter Cut-off Current		I_{EBO}	V_{EB} = 7V, I_C = 0	—	—	10	μA
Collector-Base Breakdown Voltage		$V_{(BR)\,CBO}$	I_C = 1mA, I_E = 0	650	—	—	V
Collector-Emitter Breakdown Voltage		$V_{(BR)\,CEO}$	I_E = 10mA, I_B = 0	450	—	—	V
DC Current Gain		$h_{FE\,(1)}$	V_{CE} = 5V, I_C = 1mA	13	—	—	—
		$h_{FE\,(2)}$	V_{CE} = 5V, I_C = 0.2A	20	—	65	
Collector-Emitter Saturation Voltage		$V_{CE\,(sat)}$	I_C = 0.8A, I_B = 0.1A	—	—	1.0	V
Base-Emitter Saturation Voltage		$V_{BE\,(sat)}$	I_C = 0.8A, I_B = 0.1A	—	—	1.3	V
Switching Time	Rise Time	t_r		—	—	0.5	μs
	Storage Time	t_{stg}		—	—	2.0	
	Fall Time	t_f	I_{B1} = 0.1A, I_{B2} = −0.2A DUTY CYCLE ≦ 1%	—	—	0.3	

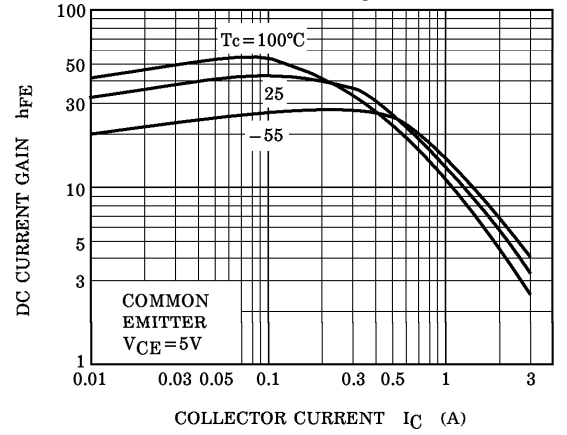
$I_C - V_{CE}$



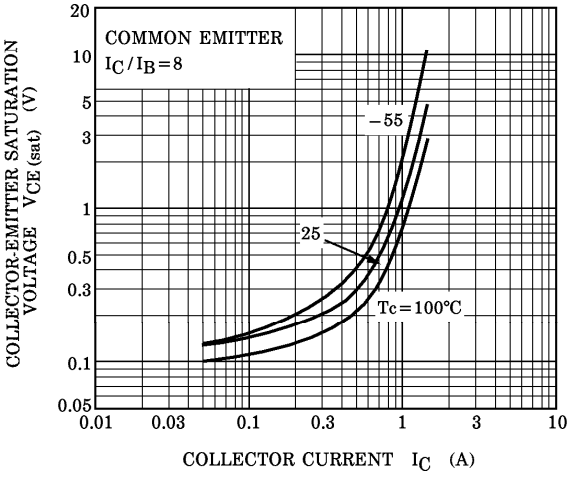
$I_C - V_{BE}$



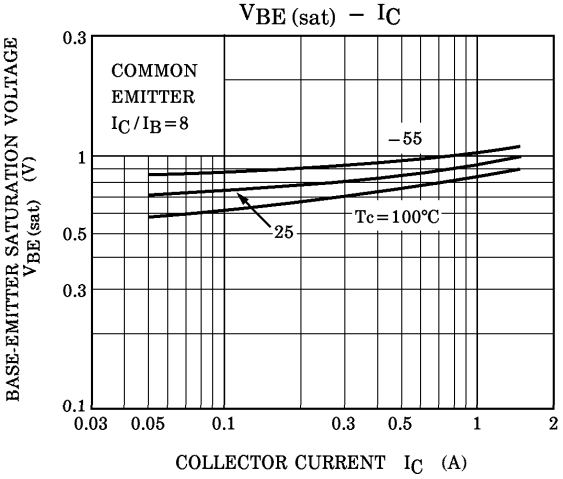
$h_{FE} - I_C$



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



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



SAFE OPERATING AREA