TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

2SC3783

HIGH SPEED AND HIGH VOLTAGE SWITCHING APPLICATIONS

SWITCHING REGULATOR APPLICATIONS

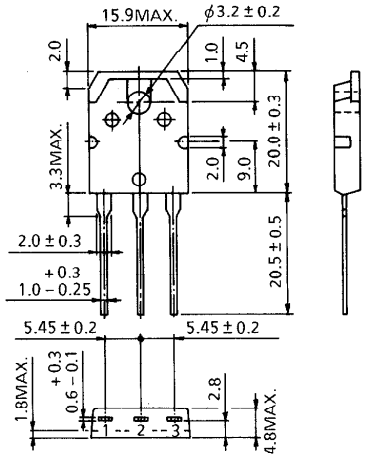
HIGH SPEED DC-DC CONVERTER APPLICATIONS

- Excellent Switching Times
  : $t_r = 1.0\mu s$ (Max.), $t_f = 1.0\mu s$ (Max.)
- High Collector Breakdown Voltage : $V_{CEO} = 800V$

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	5	A
	Pulse	I_{CP}	7	A
Base Current		I_B	3	A
Collector Power Dissipation (Tc = 25°C)		P_C	100	W
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55~150	°C

Unit in mm



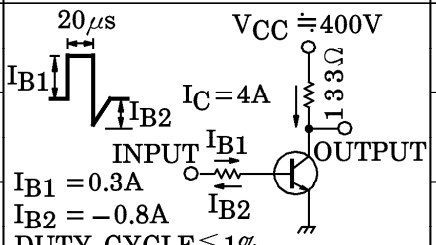
1. BASE
2. COLLECTOR (HEAT SINK)
3. EMITTER

JEDEC	—
EIAJ	—
TOSHIBA	2-16C1A

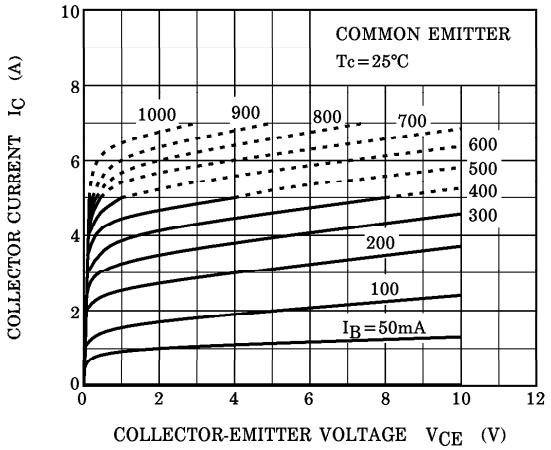
Weight : 4.7g (Typ.)

961001EAA2

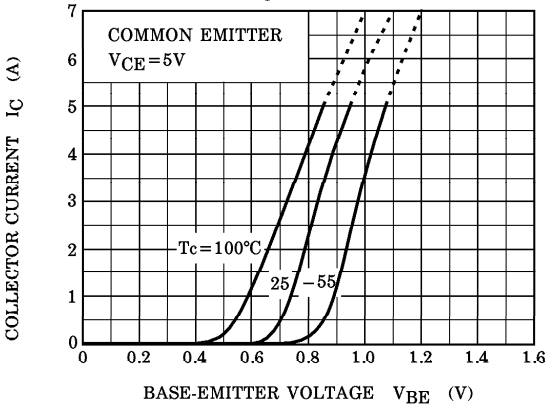
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB} = 800V, I_E = 0	—	—	100	μA
Emitter Cut-off Current		I_{EBO}	V_{EB} = 7V, I_C = 0	—	—	1	mA
Collector-Base Breakdown Voltage		$V_{(BR)\,CBO}$	I_C = 1mA, I_E = 0	900	—	—	V
Collector-Emitter Breakdown Voltage		$V_{(BR)\,CEO}$	I_C = 10mA, I_B = 0	800	—	—	V
DC Current Gain		$h_{FE\,(1)}$	V_{CE} = 5V, I_C = 10mA	10	—	—	
		$h_{FE\,(2)}$	V_{CE} = 5V, I_C = 3A	10	—	—	
Collector-Emitter Saturation Voltage		$V_{CE\,(sat)}$	I_C = 3A, I_B = 0.6A	—	—	1.0	V
Base-Emitter Saturation Voltage		$V_{BE\,(sat)}$	I_C = 3A, I_B = 0.6A	—	—	1.5	V
Switching Time	Rise Time	t_r		—	—	1.0	μs
	Storage Time	t_{stg}		—	—	3.5	
	Fall Time	t_f		—	—	1.0	

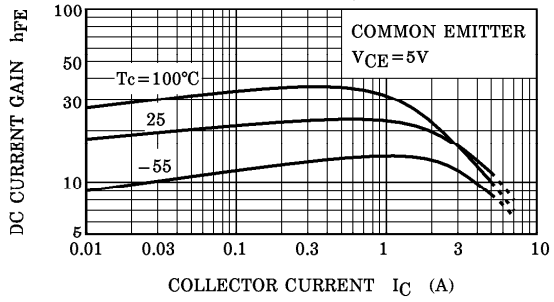
I_C – V_{CE}



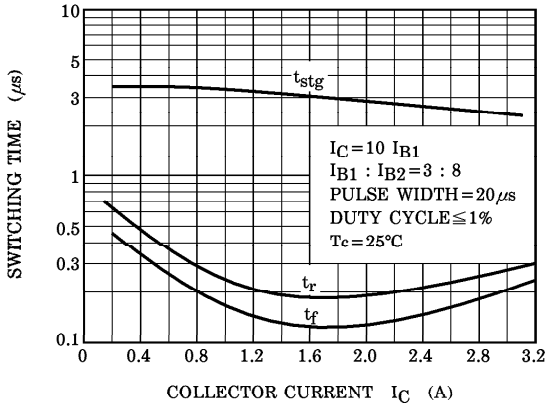
I_C – V_{BE}



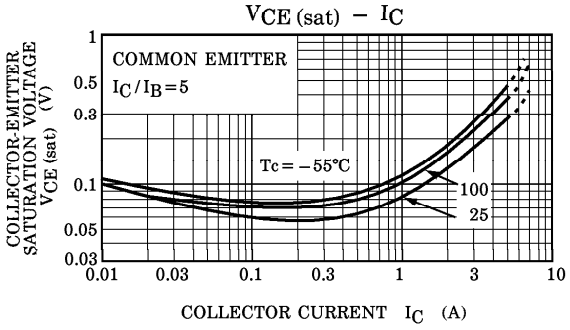
h_{FE} – I_C



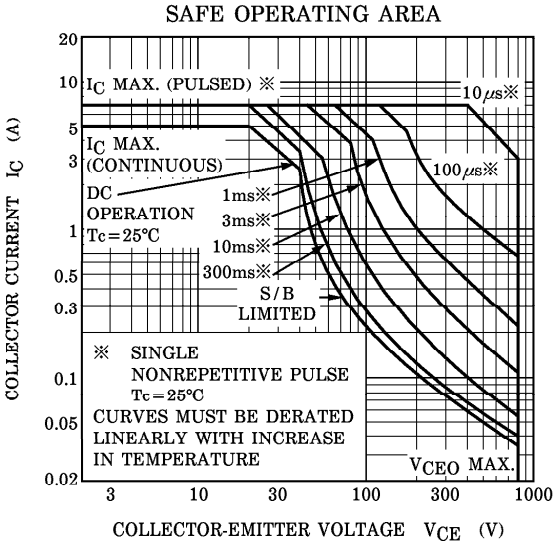
SWITCHING CHARCTERISTICS



$V_{CE\,(sat)}$ – I_C



SAFE OPERATING AREA



$V_{BE\,(sat)}$ – I_C