

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07690

D 7-33-65

SILICON NPN TRIPLE DIFFUSED TYPE

2SC3309

SWITCHING REGULATOR AND HIGH VOLTAGE SWITCHING APPLICATIONS.

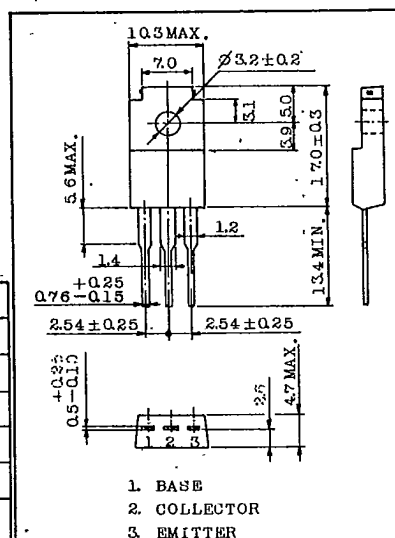
HIGH SPEED DC-DC CONVERTER APPLICATION.

FEATURES:

- Excellent Switching Times
 $t_r = 1.0 \mu s$ (Max.), $t_f = 1.0 \mu s$ (Max.) at $I_C = 0.8 A$
- High Collector Breakdown Voltage : $V_{CE0} = 400V$

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	500	V
Collector-Emitter Voltage	V_{CEO}	400	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	2.0	W
		20	
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 ~ 150	$^\circ C$

INDUSTRIAL APPLICATIONS
Unit in mm

JEDEC -

EIAJ -

TOSHIBA

2-10 L1A

Weight : 2.1g

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 400V, I_E = 0$	-	-	100	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 7V, I_C = 0$	-	-	1	mA
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 1mA, I_E = 0$	500	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	400	-	-	V
DC Current Gain	h_{FE}	$V_{CE} = 5V, I_C = 0.1A$	20	-	-	
		$V_{CE} = 5V, I_C = 1A$	8	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1A, I_B = 0.2A$	-	-	1.0	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 1A, I_B = 0.2A$	-	-	1.5	V
Switching Time	Rise Time	t_r	-	-	1.0	μs
	Storage Time	t_{stg}	-	-	2.5	
	Fall Time	t_f	-	-	1.0	

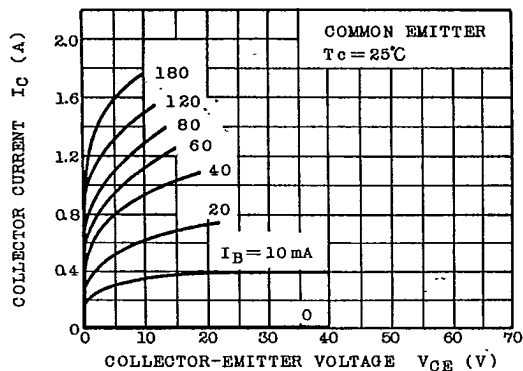
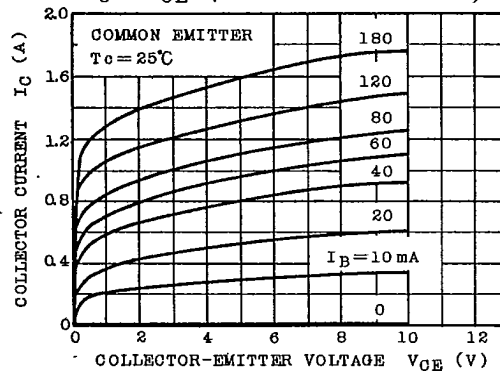
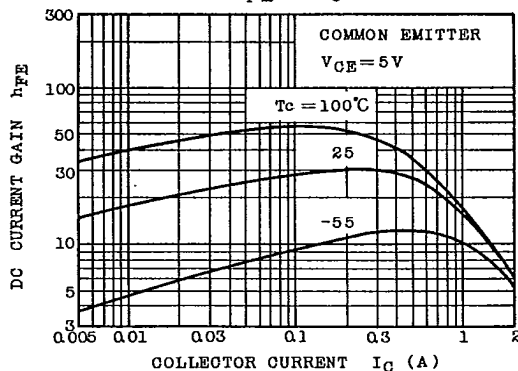
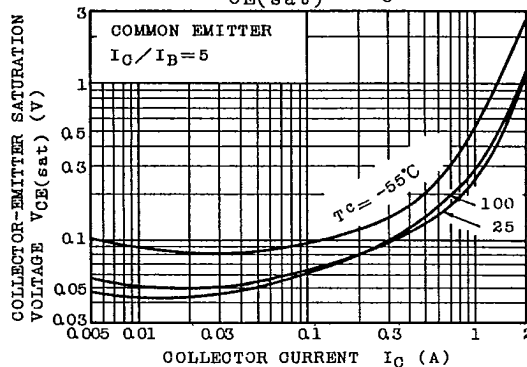
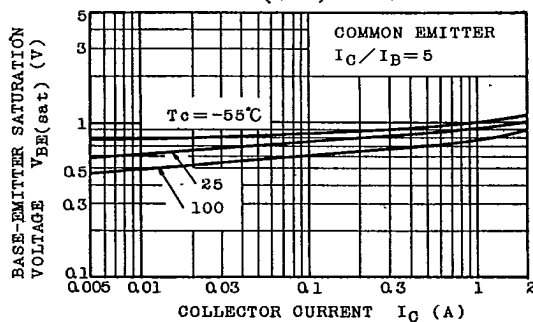
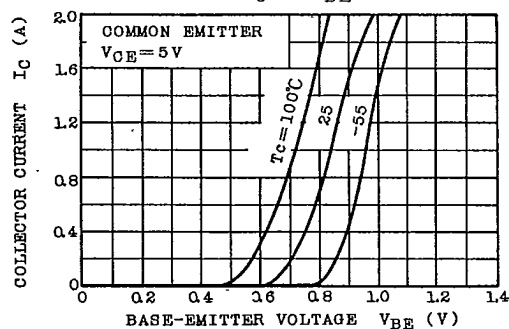
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STATIC CHARACTERISTICS

 $I_C - V_{CE}$ (LOW VOLTAGE REGION) $h_{FE} - I_C$  $V_{CE(sat)} - I_C$  $V_{BE(sat)} - I_C$  $I_C - V_{BE}$ 

TOSHIBA CORPORATION

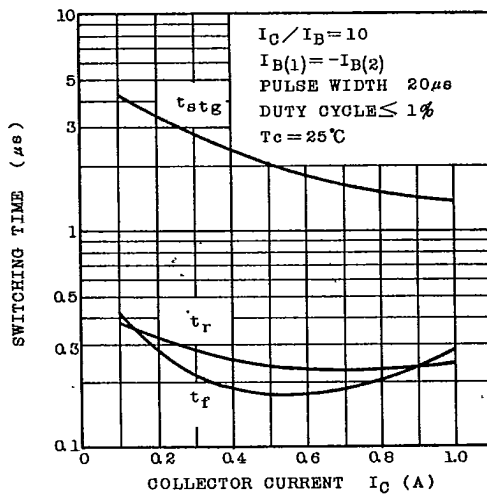
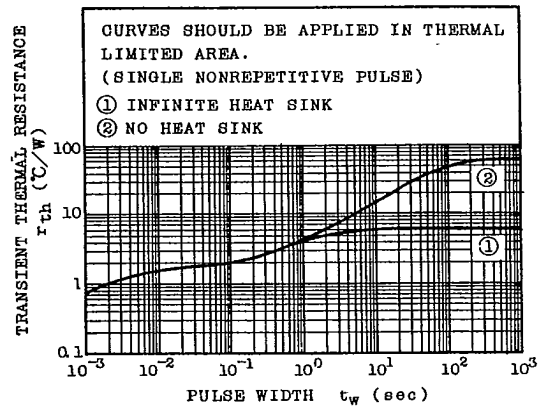
9097250 TOSHIBA (DISCRETE/OPTO)

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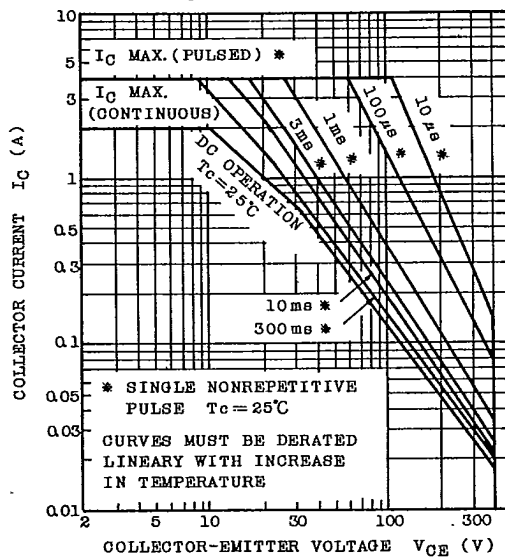
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SWITCHING CHARACTERISTICS

 $r_{th} - t_w$ 

SAFE OPERATING AREA



TOSHIBA CORPORATION