2SC3309

SILICON NPN TRIPLE DIFFUSED TYPE

SWITCHING REGULATOR AND HIGH VOLTAGE SWITCHING APPLICATIONS.

HIGH SPEED DC-DC CONVERTER APPLICATION.

INDUSTRIAL APPLICATIONS

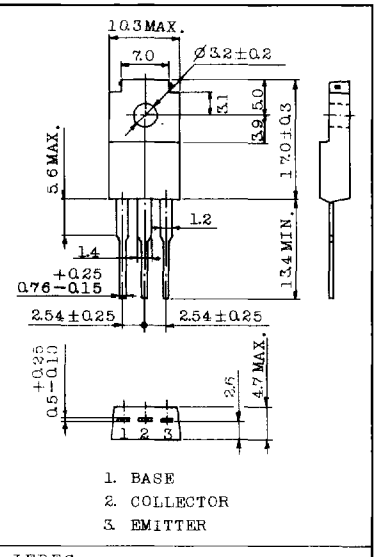
FEATURES:

. Excellent Switching Times

t_r=1.0μs(Max.), t_f=1.0μs(Max.) at I_C=0.8A

. High Collector Breakdown Voltage : V_{CEO}=400V

Unit in mm



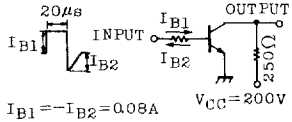
JEDEC	—
EIAJ	—
TOSHIBA	2-10L1A

Weight : 2.1g

MAXIMUM RATINGS (Ta=25°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	Ta=25°C	P_C	2.0	W
	Tc=25°C		20	
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55 ~ 150	°C

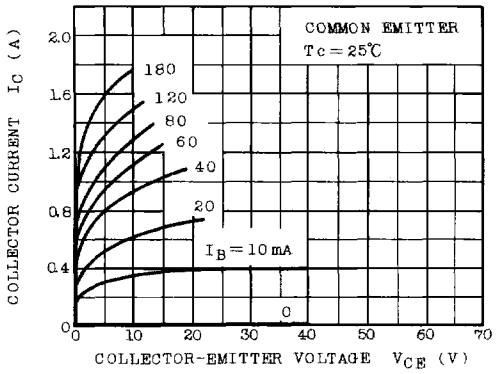
ELECTRICAL CHARACTERISTICS (Ta=25°C)

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	

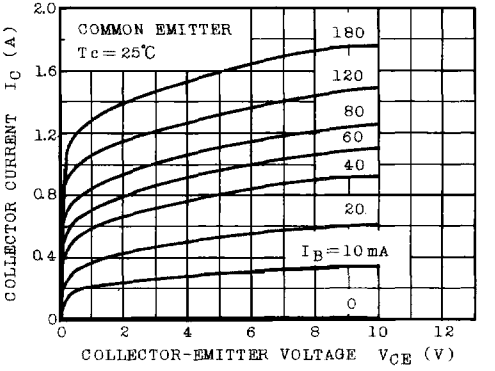
I_{B1}=−I_{B2}=0.08A

DUTY CYCLE<1%

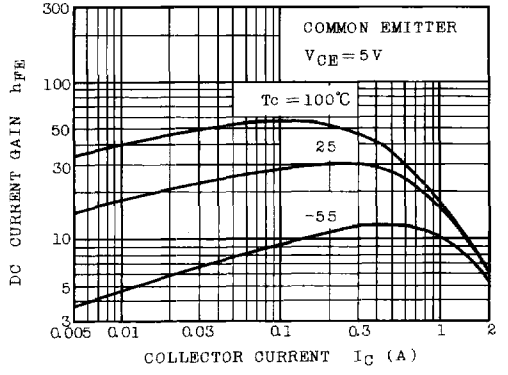
STATIC CHARACTERISTICS



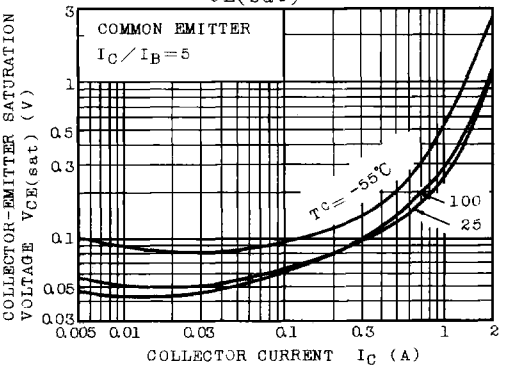
$I_C - V_{CE}$ (LOW VOLTAGE REGION)



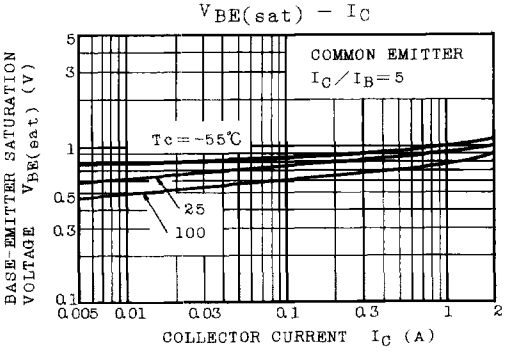
$h_{FE} - I_C$



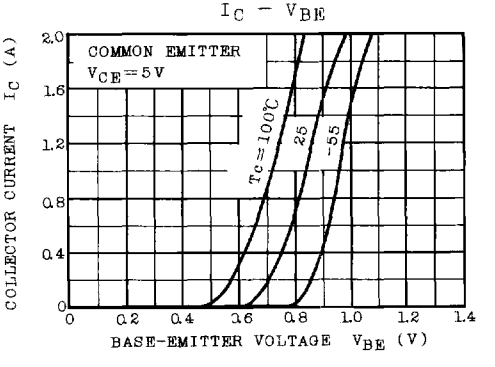
$V_{CE(sat)} - I_C$



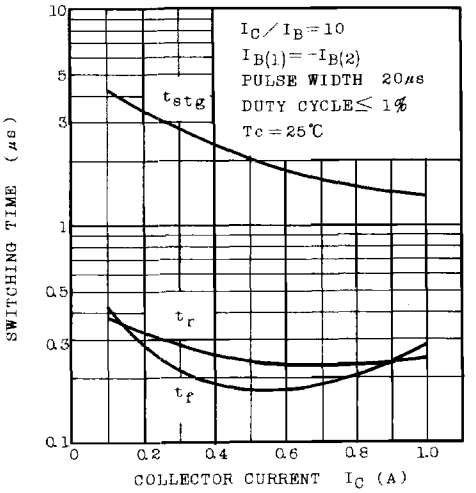
$V_{BE(sat)} - I_C$



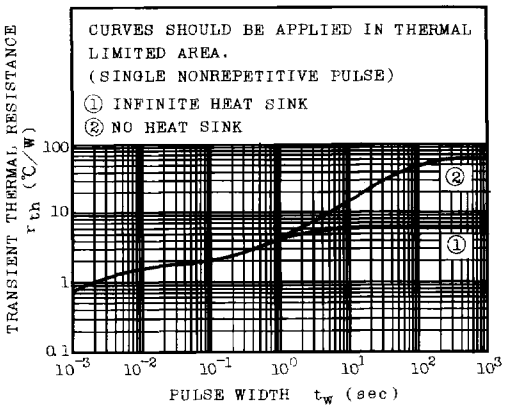
$I_C - V_{BE}$



SWITCHING CHARACTERISTICS



$r_{th} - t_w$



SAFE OPERATING AREA