2SC3299

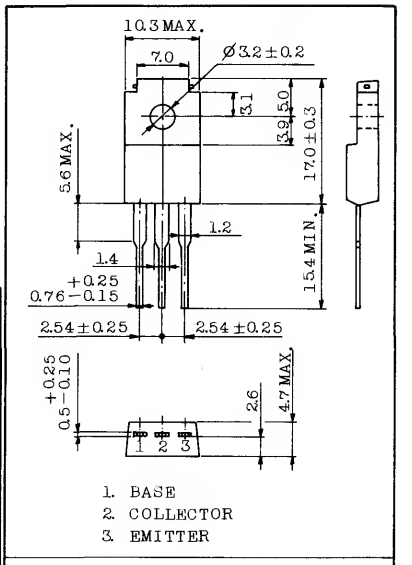
SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

HIGH CURRENT SWITCHING APPLICATIONS.

FEATURES:

. Low Collector Saturation Voltage
  : $V_{CE(sat)}$=0.4V(Max.) at I_C=3A
. High Speed Switching Time : t_{stg}=1.0μs(Typ.)
. Complementary to 2SA1307

Unit in mm



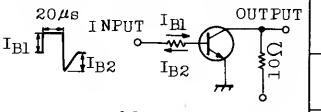
JEDEC	−
EIAJ	−
TOSHIBA	2−10L1A

Weight : 2.1g

MAXIMUM RATINGS (Ta=25°C)

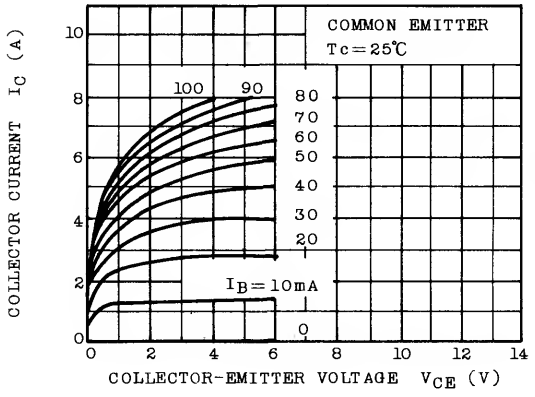
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	60	V
Collector-Emitter Voltage		V_{CEO}	50	V
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current		I_C	5	A
Base Current		I_B	1	A
Collector Power Dissipation	Ta=25°C	P_C	2.0	W
	Tc=25°C		20	
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55 ~ 150	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

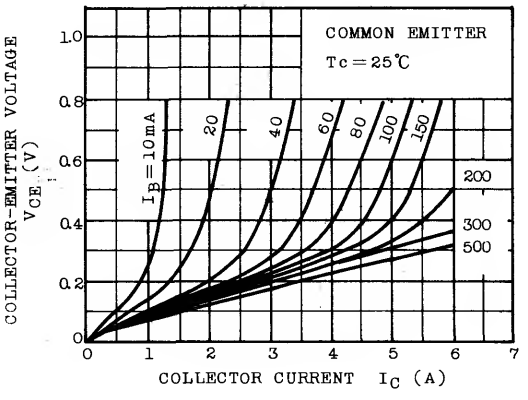
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=50V, I_E=0	−	−	1	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=5V, I_C=0	−	−	1	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	I_C=10mA, I_B=0	50	−	−	V
DC Current Gain		$h_{FE(1)}$ (Note)	V_{CE}=1V, I_C=1A	70	−	240	
		$h_{FE(2)}$	V_{CE}=1V, I_C=3A	30	−	−	
Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	I_C=3A, I_B=0.15A	−	0.2	0.4	V
	Base-Emitter	$V_{BE(sat)}$	I_C=3A, I_B=0.15A	−	0.9	1.2	
Transition Frequency		f_T	V_{CE}=4V, I_C=1A	−	120	−	MHz
Collector Output Capacitance		C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	−	80	−	pF
Switching Time	Turn-on Time	t_{on}		−	0.1	−	μs
	Storage Time	t_{stg}		−	1.0	−	
	Fall Time	t_f	I_{B1}=−I_{B2}=0.15A, V_{CC}=30V, DUTY CYCLE≦1%	−	0.1	−	

Note : $h_{FE(1)}$ Classification O : 70 ~ 140, Y : 120 ~ 240

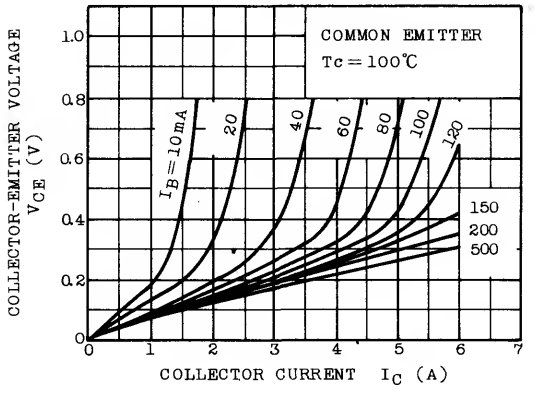
$I_C - V_{CE}$



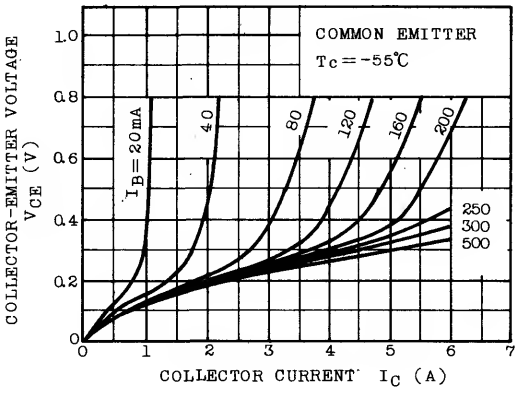
$V_{CE} - I_C$



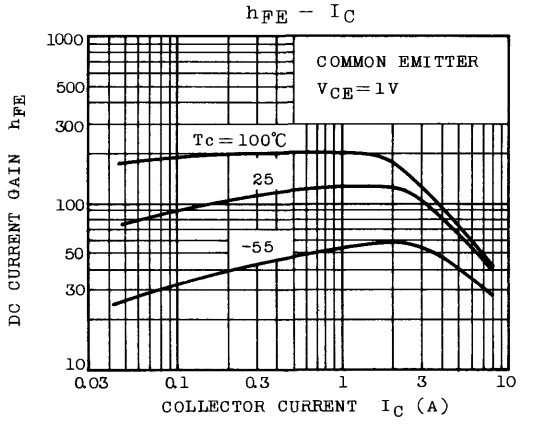
$V_{CE} - I_C$



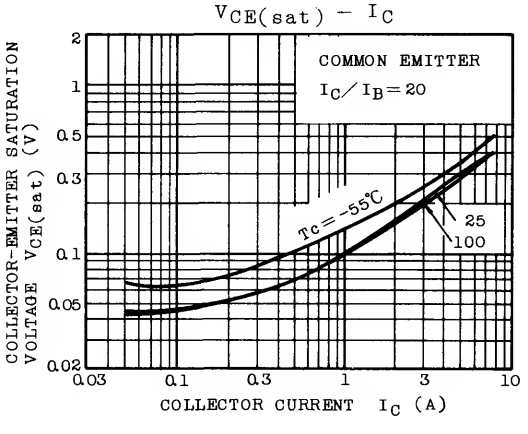
$V_{CE} - I_C$



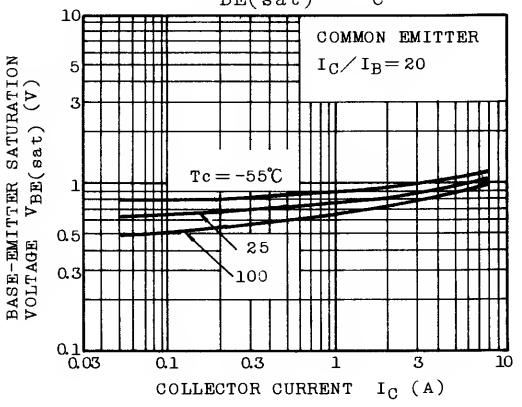
$h_{FE} - I_C$



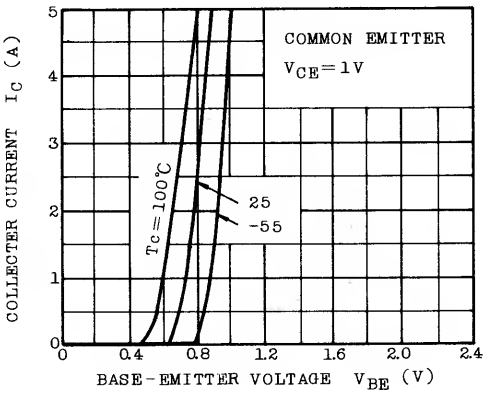
$V_{CE(sat)} - I_C$



$V_{BE(sat)} - I_C$



$I_C - V_{BE}$



SAFE OPARATING AREA