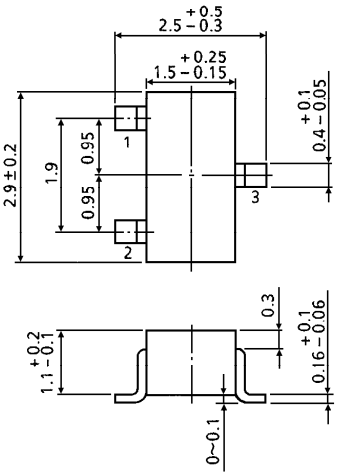
TOSHIBA TRANSISTOR SILICON PNP TRIPLE DIFFUSED (PCT PROCESS)

2SA1255

HIGH VOLTAGE SWITCHING APPLICATIONS

Unit in mm

- High Voltage : $V_{CBO} = -200V$ (Min.)
  $V_{CEO} = -200V$ (Min.)
- Small Package
- Complementary to 2SC3138



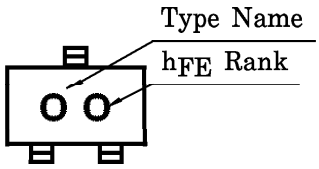
S-MINI	
JEDEC	TO-236 MOD
EIAJ	SC-59
TOSHIBA	2-3F1A

Weight : 0.012g

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	−200	V
Collector-Emitter Voltage	V_{CEO}	−200	V
Emitter-Base Voltage	V_{EBO}	−5	V
Collector Current	I_C	−50	mA
Base Current	I_B	−20	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	−55~125	°C

Marking



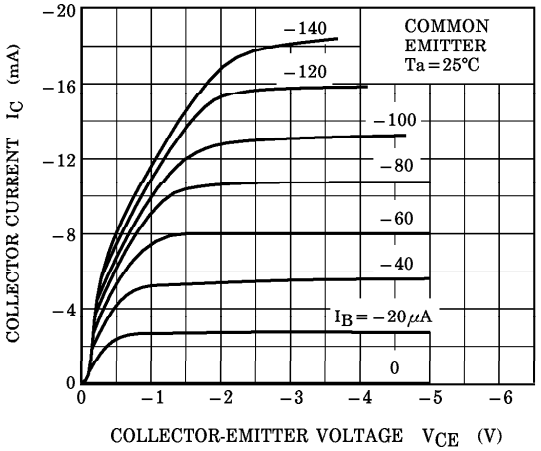
961001EAA2

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

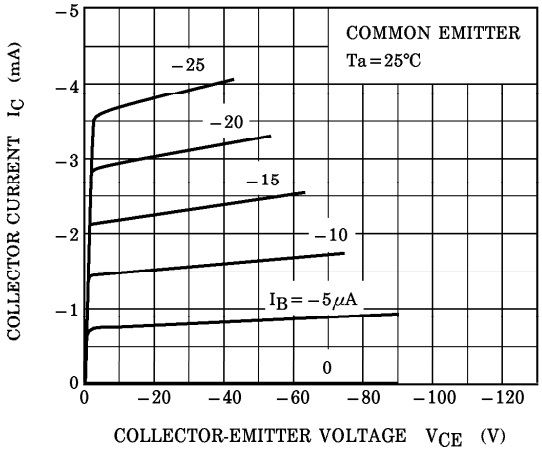
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB}=-200V$, $I_E=0$	—	—	−0.1	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB}=-5V$, $I_C=0$	—	—	−0.1	μA
Collector-Base Breakdown Voltage		$V_{(BR)\,CBO}$	$I_C=-0.1mA$, $I_E=0$	−200	—	—	V
Collector-Emitter Breakdown Voltage		$V_{(BR)\,CEO}$	$I_C=-1mA$, $I_B=0$	−200	—	—	V
DC Current Gain		h_{FE} (Note)	$V_{CE}=-3V$, $I_C=-10mA$	70	—	240	
Collector-Emitter Saturation Voltage		$V_{CE\,(sat)}$	$I_C=-10mA$, $I_B=-1mA$	—	−0.2	−1	V
Base-Emitter Saturation Voltage		$V_{BE\,(sat)}$	$I_C=-10mA$, $I_B=-1mA$	—	−0.75	−1.5	V
Transition Frequency		f_T	$V_{CE}=-10V$, $I_C=-2mA$	50	100	—	MHz
Collector Output Capacitance		C_{ob}	$V_{CB}=-10V$, $I_E=0$, f=1MHz	—	3	7	pF
Switching Time	Turn-on Time	t_{on}	$V_{CC}=-50V$, $I_C=-6mA$	—	0.3	—	μs
	Storage Time	t_{stg}	$-I_{B1}=I_{B2}=0.6mA$	—	2	—	μs
	Fall Time	t_f	PULSE WIDTH = 5μs DUTY CYCLE ≦ 2%	—	0.4	—	μs

Note : h_{FE} Classification O : 70~140, Y : 120~240

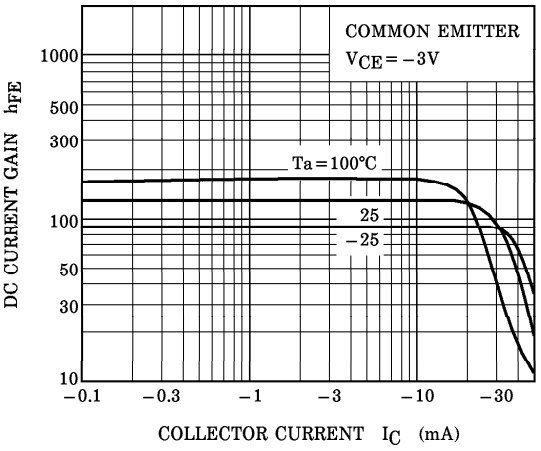
$I_C - V_{CE}$ (LOW VOLTAGE REGION)



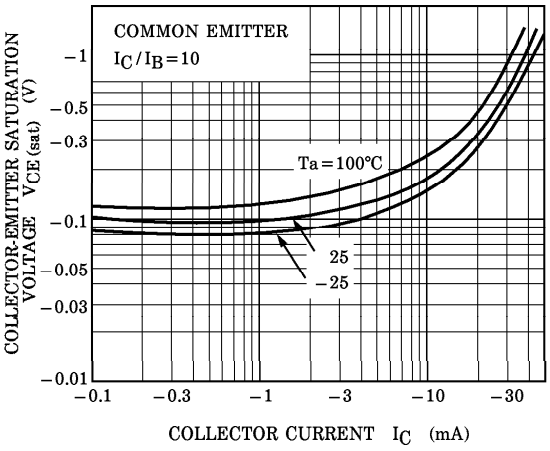
$I_C - V_{CE}$ (LOW CURRENT REGION)



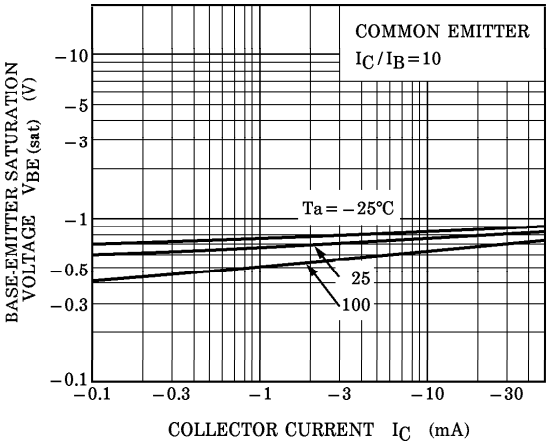
$h_{FE} - I_C$



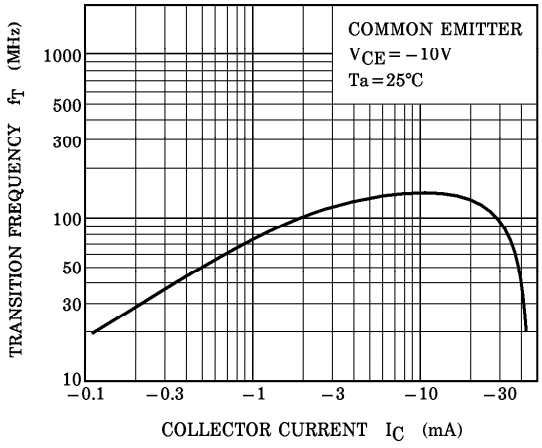
$V_{CE\,(sat)} - I_C$

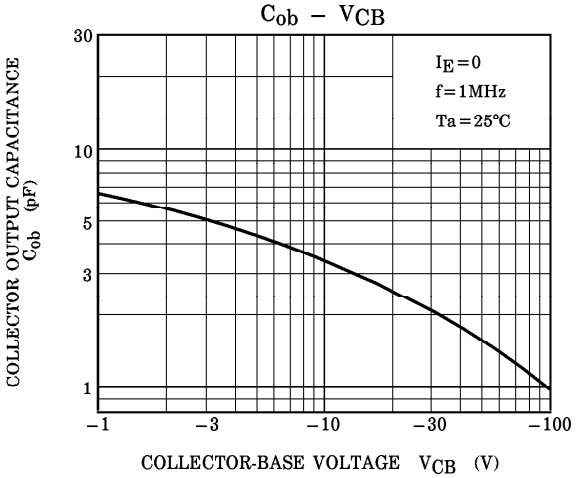


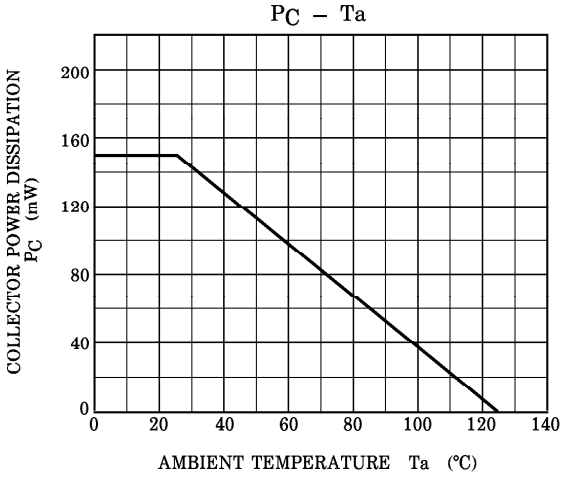
$V_{BE\,(sat)} - I_C$



$f_T - I_C$




C_{ob} – V_{CB}
I_E = 0
f = 1MHz
Ta = 25°C
COLLECTOR OUTPUT CAPACITANCE C_{ob} (pF)
30
10
5
3
1
−1
−3
−10
−30
−100
COLLECTOR-BASE VOLTAGE V_{CB} (V)


P_C – Ta
COLLECTOR POWER DISSIPATION P_C (mW)
200
160
120
80
40
0
0
20
40
60
80
100
120
140
AMBIENT TEMPERATURE Ta (°C)