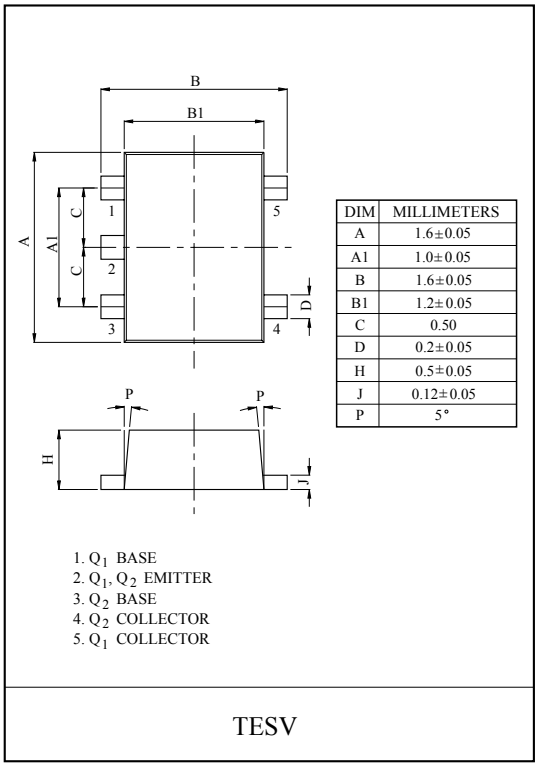
GENERAL PURPOSE APPLICATION.

FEATURES

- Including two devices in TESV.
  (Thin Extreme Super mini type with 5 pin)
- Simplify circuit design.
- Reduce a quantity of parts and manufacturing process.

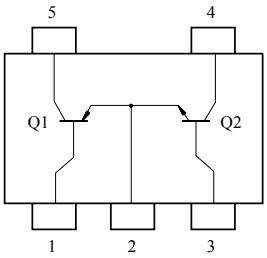


DIM	MILLIMETERS
A	1.6±0.05
A1	1.0±0.05
B	1.6±0.05
B1	1.2±0.05
C	0.50
D	0.2±0.05
H	0.5±0.05
J	0.12±0.05
P	5°

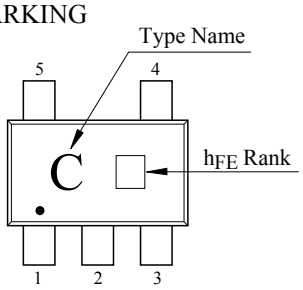
1. Q_1 BASE
2. Q_1, Q_2 EMITTER
3. Q_2 BASE
4. Q_2 COLLECTOR
5. Q_1 COLLECTOR

TESV

EQUIVALENT CIRCUIT(TOP VIEW)



MARKING



Q_1 MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-150	mA
Base Current	I_B	-30	mA

Q_2 MAXIMUM RATING (Ta=25℃)

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	150	mA
Base Current	I_B	30	mA

Q_1 Q_2 MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector Power Dissipation	P_C *	200	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55 ~ 150	℃

* Total Rating.

Q_1 ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT.
Collector Cut-off Current	I_{CBO}	V_{CB}=-50V, I_E=0	-	-	-0.1	㎂
Emitter Cut-off Current	I_{EBO}	V_{EB}=-5V, I_C=0	-	-	-0.1	㎂
DC Current Gain	h_{FE} (Note)	V_{CE}=-6V, I_C=-2㎃	120	-	400	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=-100㎃, I_B=-10㎃	-	-0.1	-0.3	V
Transition Frequency	f_T	V_{CE}=-10V, I_C=-1㎃	80	-	-	㎒
Collector Output Capacitance	C_{ob}	V_{CB}=-10V, I_E=0, f=1㎒	-	4.0	7.0	pF
Noise Figure	NF	V_{CE}=-6V, I_C=-0.1㎃, f=1㎑, Rg=10㏀	-	1.0	10	dB

Note)h_{FE} Classification : Y(4)120~240, GR(6)200~400

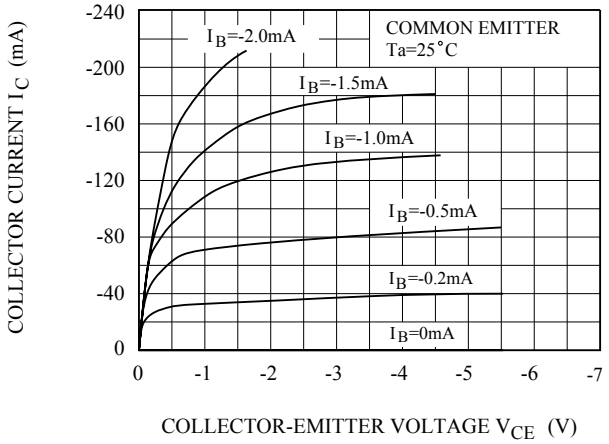
Q_2 ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT.
Collector Cut-off Current	I_{CBO}	V_{CB}=60V, I_E=0	-	-	0.1	㎂
Emitter Cut-off Current	I_{EBO}	V_{EB}=5V, I_C=0	-	-	0.1	㎂
DC Current Gain	h_{FE} (Note)	V_{CE}=6V, I_C=2㎃	120	-	400	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=100㎃, I_B=10㎃	-	0.1	0.25	V
Transition Frequency	f_T	V_{CE}=10V, I_C=1㎃	80	-	-	㎒
Collector Output Capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1㎒	-	2.0	3.5	pF
Noise Figure	NF	V_{CE}=6V, I_C=0.1㎃, f=1㎑, Rg=10㏀	-	1.0	10	dB

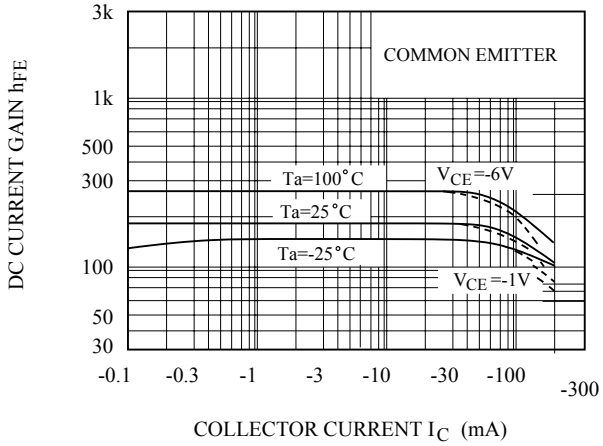
Note)h_{FE} Classification : Y(4)120~240, GR(6)200~400

Q_1 (PNP TRANSISTOR)

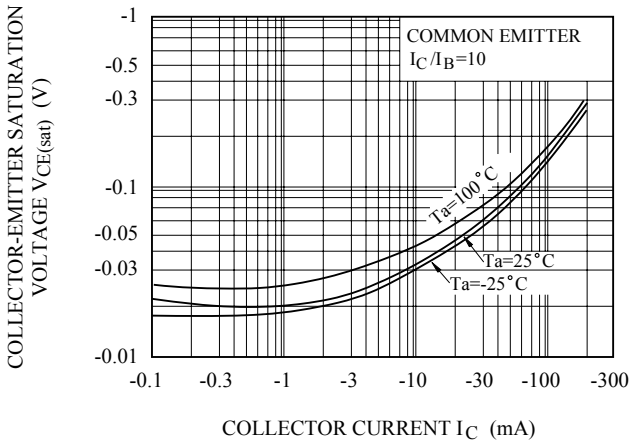
I_C - V_{CE}



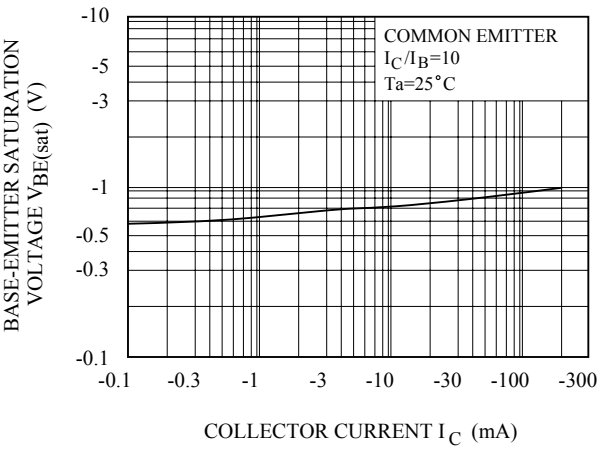
h_{FE} - I_C



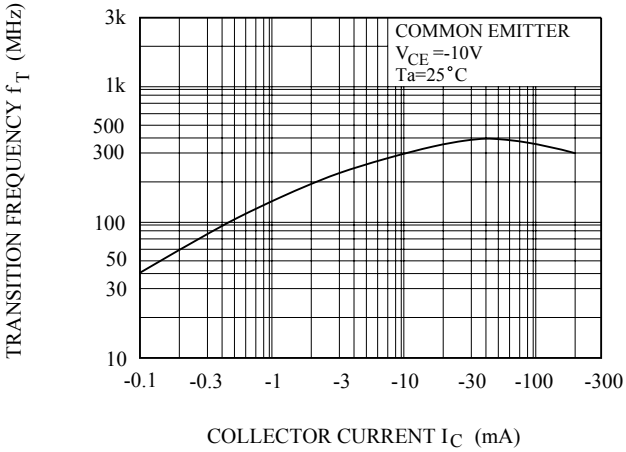
$V_{CE(sat)}$ - I_C



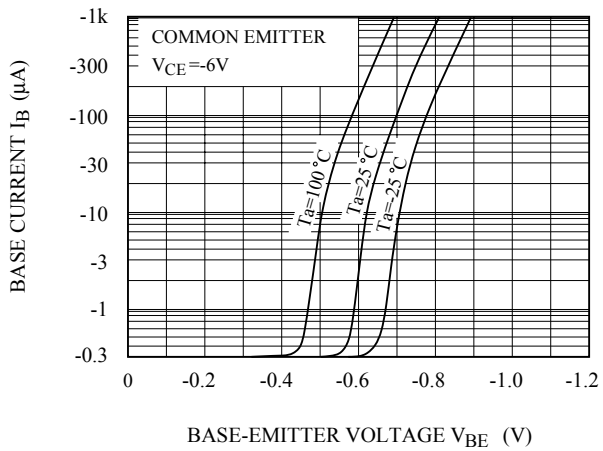
$V_{BE(sat)}$ - I_C



f_T - I_C

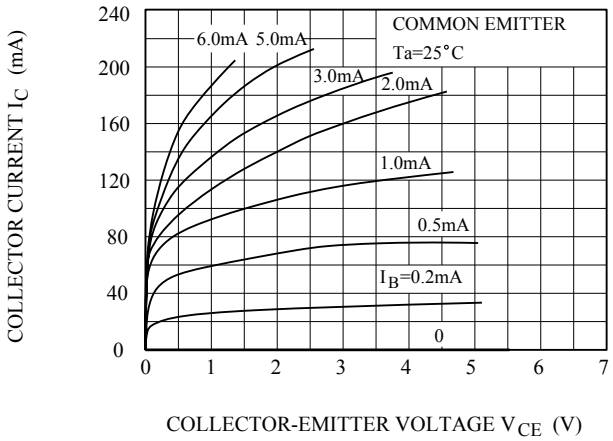


I_B - V_{BE}

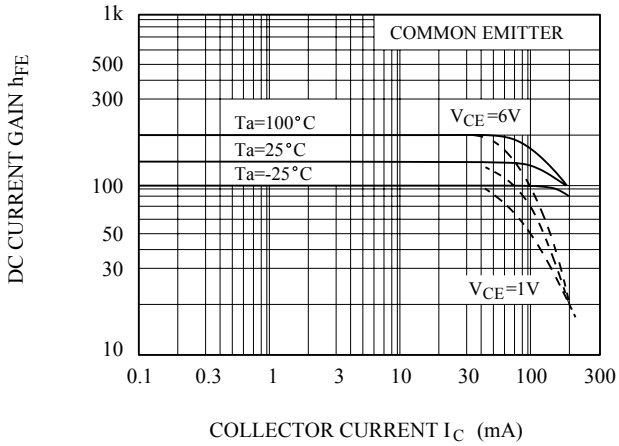


Q_2 (NPN TRANSISTOR)

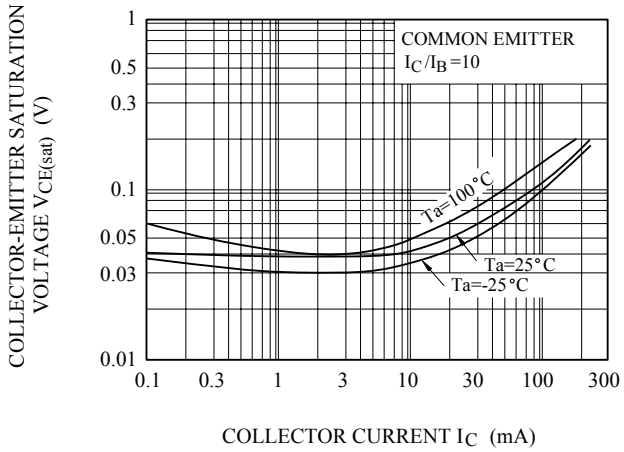
I_C - V_{CE}



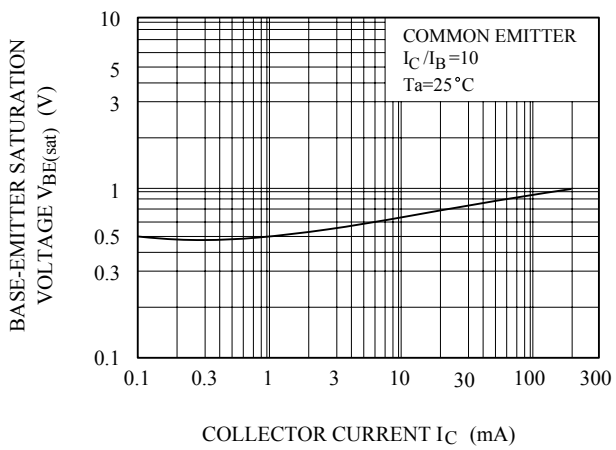
h_{FE} - I_C



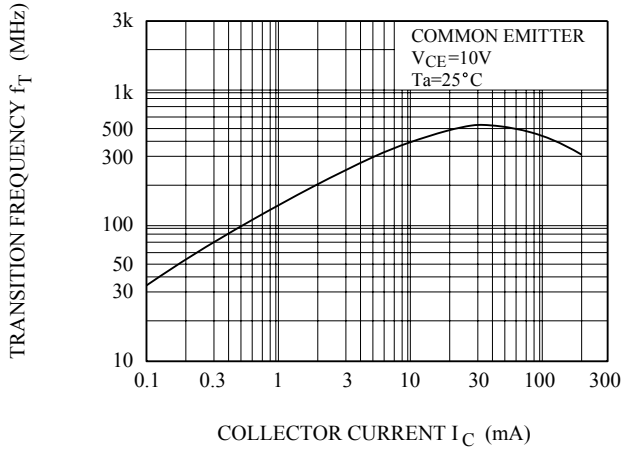
$V_{CE(sat)}$ - I_C



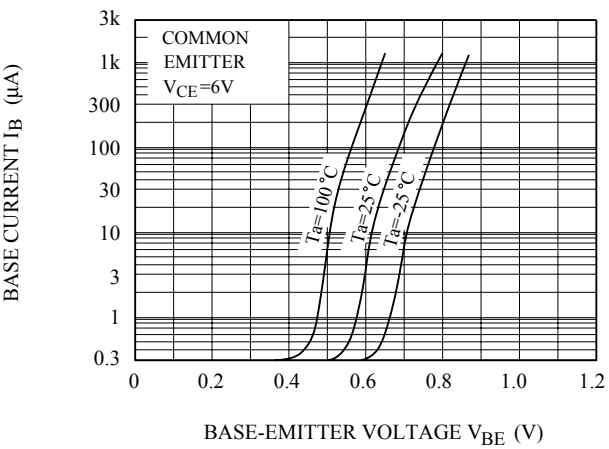
$V_{BE(sat)}$ - I_C

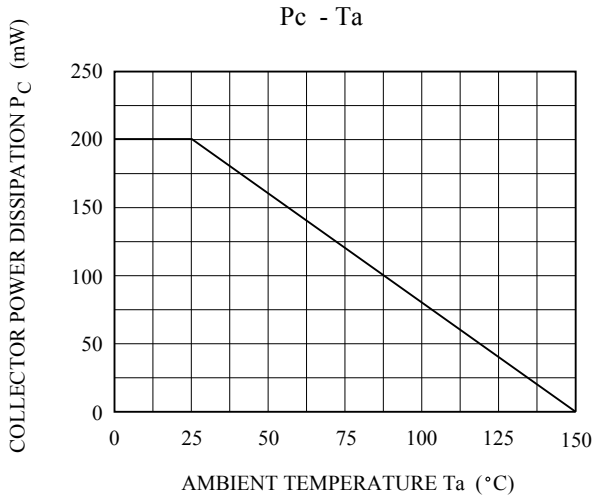


f_T - I_C



I_B - V_{BE}




Pc - Ta
COLLECTOR POWER DISSIPATION P_C (mW)
250
200
150
100
50
0
0
25
50
75
100
125
150
AMBIENT TEMPERATURE Ta (°C)