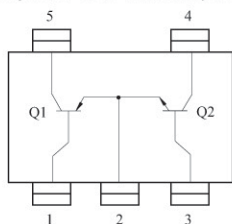


GENERAL PURPOSE APPLICATION.

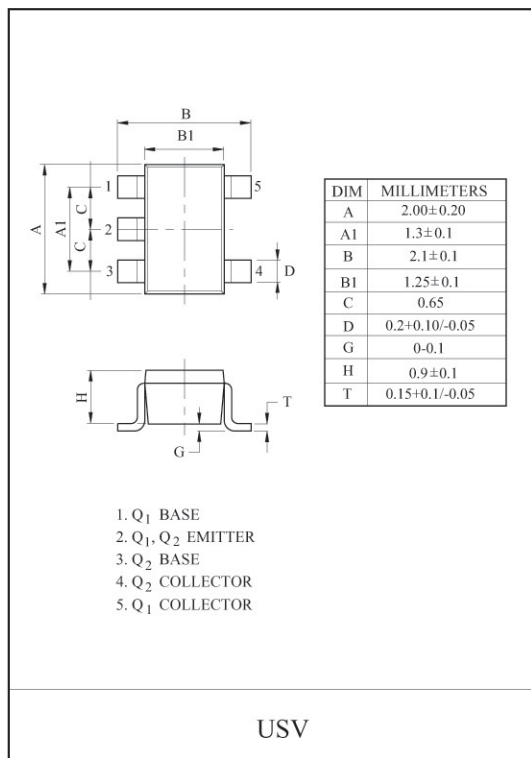
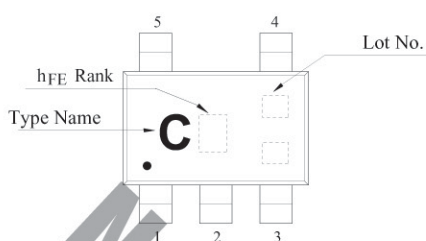
FEATURES

- Including two devices in USV.
(Ultra Super mini type with 5 leads)
- Simplify circuit design.
- Reduce a quantity of parts and manufacturing process

EQUIVALENT CIRCUIT(TOP VIEW)



Marking



Q₁ MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CB0}	-50	V
Collector-Emitter Voltage	V _{CE0}	-50	V
Emitter-Base Voltage	V _{EBO}	-5	V
Collector Current	I _C	-150	mA
Base Current	I _B	-30	mA

Q₂ MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CB0}	60	V
Collector-Emitter Voltage	V _{CE0}	50	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current	I _C	150	mA
Base Current	I _B	30	mA

Q₁, Q₂ MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector Power Dissipation	P _C *	200	mW
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	-55 ~ 150	°C

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Q₁ ELECTRICAL CHARACTERISTICS (Ta=25°C)

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

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

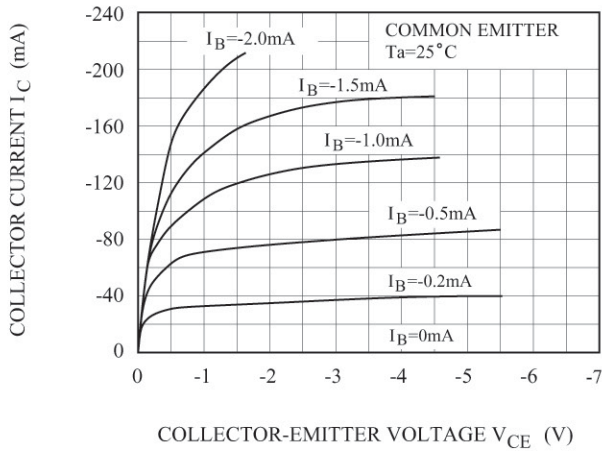
Q₂ ELECTRICAL CHARACTERISTICS (Ta=25°C)

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

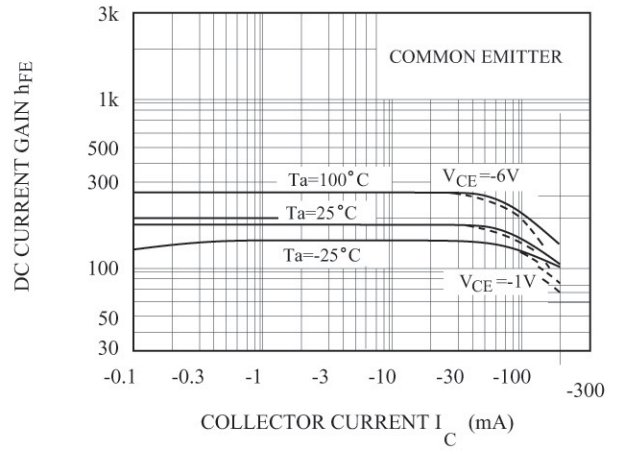
Note) h_{FE} Classification : Y(4)120~240, GR(6)200~400

Q₁ (PNP TRANSISTOR)

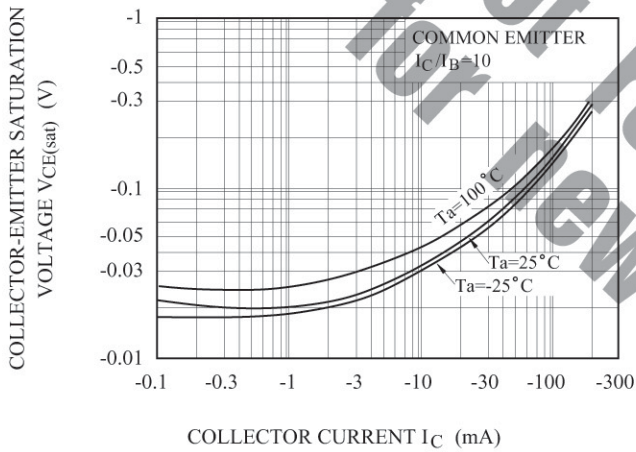
$I_C - V_{CE}$



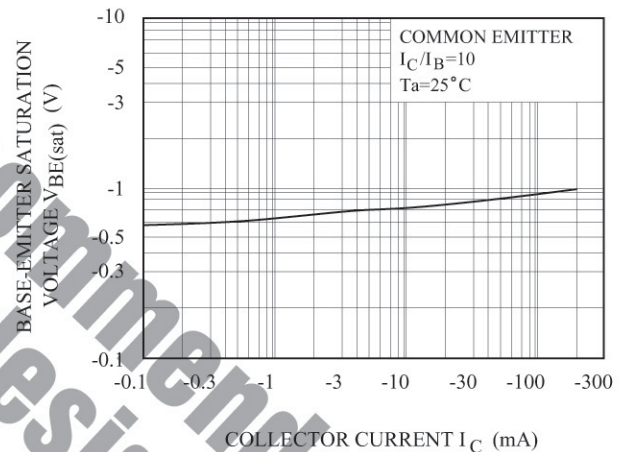
$h_{FE} - I_C$



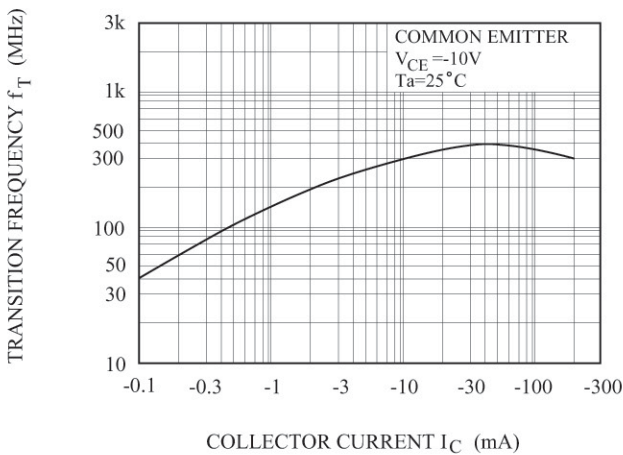
$V_{CE(sat)} - I_C$



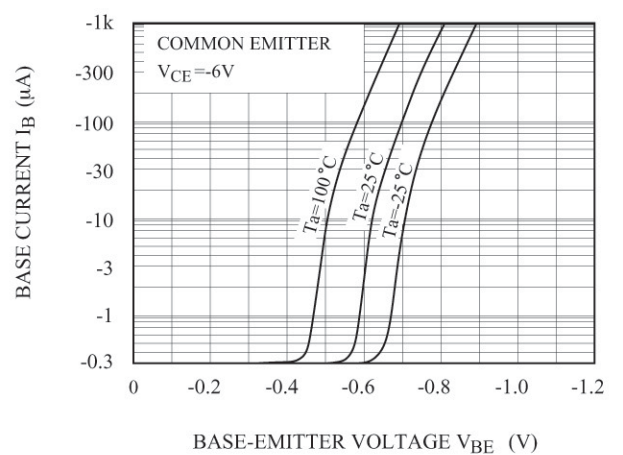
$V_{BE(sat)} - I_C$



$f_T - I_C$



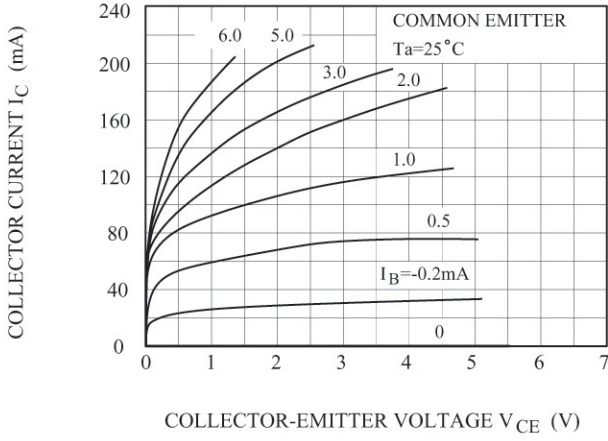
$I_B - V_{BE}$



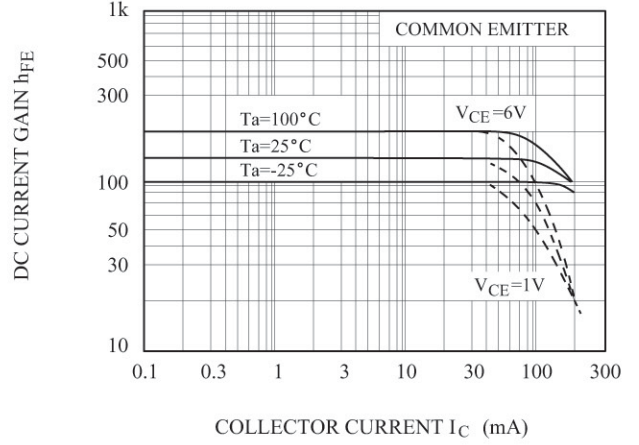
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Q₂ (NPN TRANSISTOR)

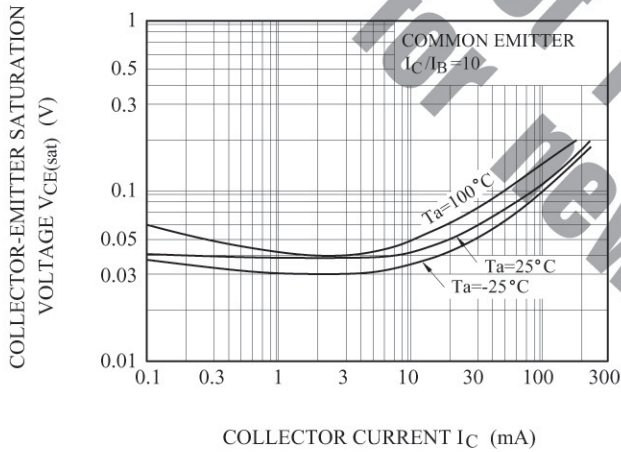
$I_C - V_{CE}$



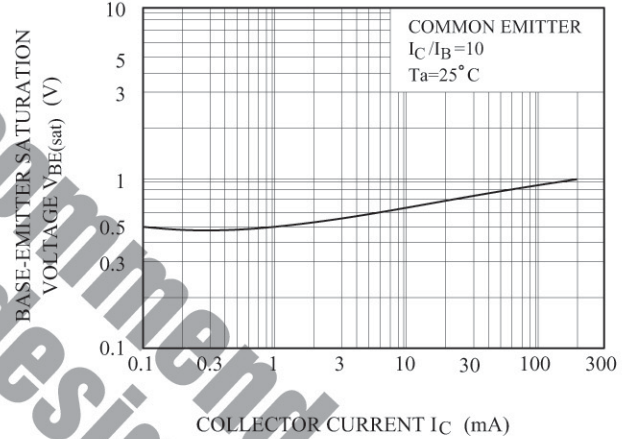
$h_{FE} - I_C$



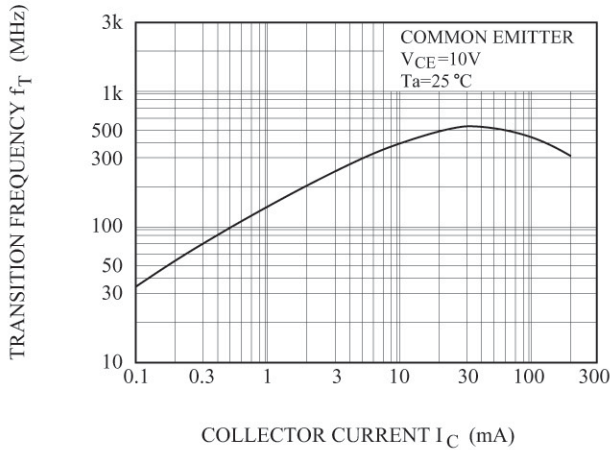
$V_{CE(sat)} - I_C$



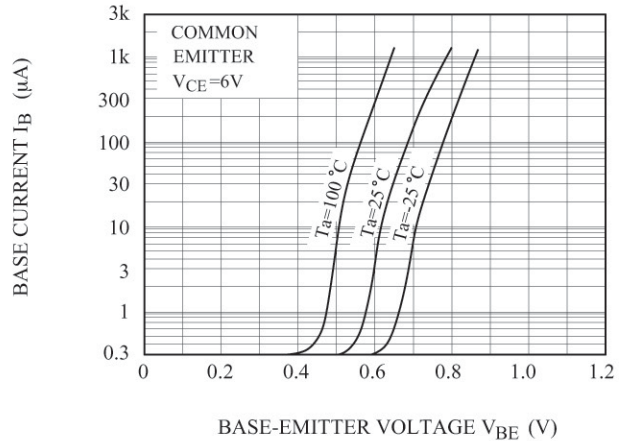
$V_{BE(sat)} - I_C$



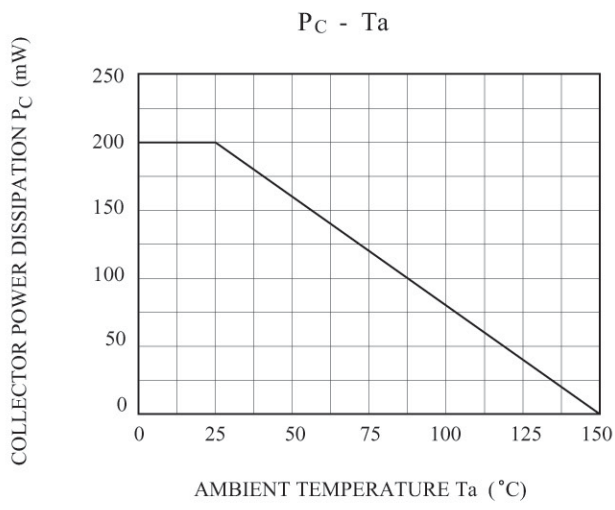
$f_T - I_C$



$I_B - V_{BE}$



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**Not recommend
for new design**