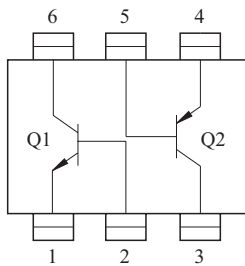


### GENERAL PURPOSE APPLICATION.

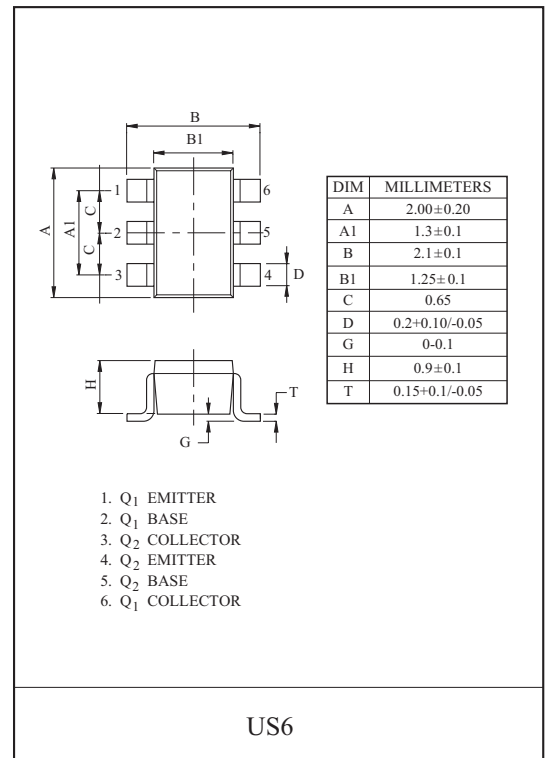
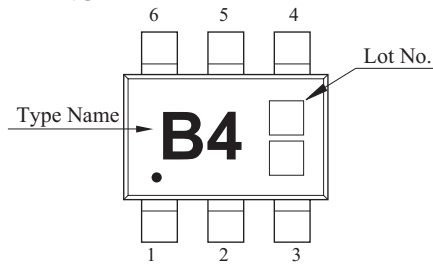
### FEATURES

- Including two devices in US6.
- (Ultra Super mini type with 6 leads)
- Simplify circuit design.
- Reduce a quantity of parts and manufacturing process.

### EQUIVALENT CIRCUIT (TOP VIEW)



### MARKING



### Q<sub>1</sub> MAXIMUM RATING (Ta=25 °C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V <sub>CBO</sub>	60	V
Collector-Emitter Voltage	V <sub>CEO</sub>	50	V
Emitter-Base Voltage	V <sub>EBO</sub>	5	V
Collector Current	I <sub>C</sub>	150	mA
Base Current	I <sub>B</sub>	30	mA

### Q<sub>2</sub> MAXIMUM RATING (Ta=25 °C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V <sub>CBO</sub>	-50	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-50	V
Emitter-Base Voltage	V <sub>EBO</sub>	-5	V
Collector Current	I <sub>C</sub>	-150	mA
Base Current	I <sub>B</sub>	-30	mA

### Q<sub>1</sub> Q<sub>2</sub> MAXIMUM RATING (Ta=25 °C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector Power Dissipation	P <sub>C</sub> *	200	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55 ~ 150	°C

\* Total Raing.

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## Q<sub>1</sub> 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	$\mu A$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=5V, I_C=0$	-	-	0.1	$\mu A$
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

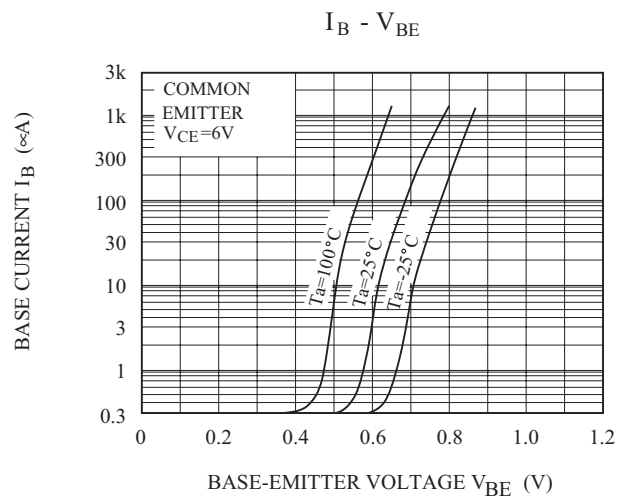
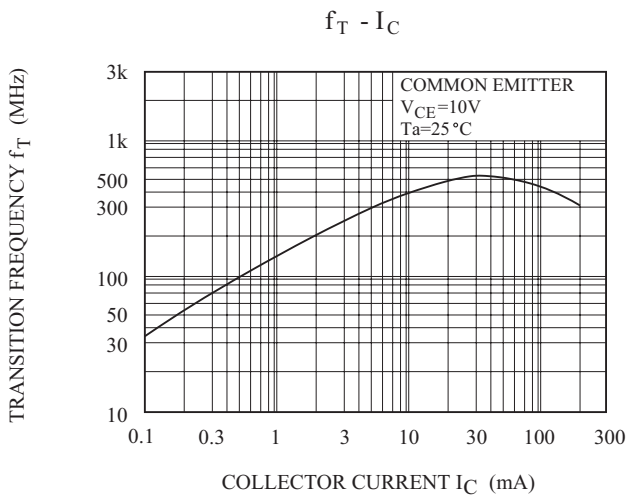
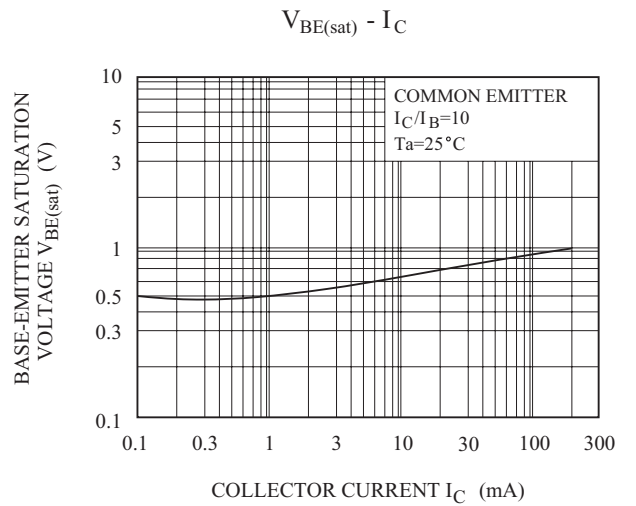
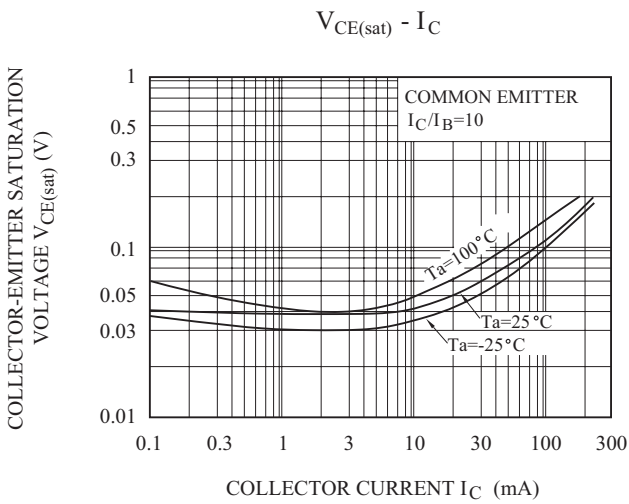
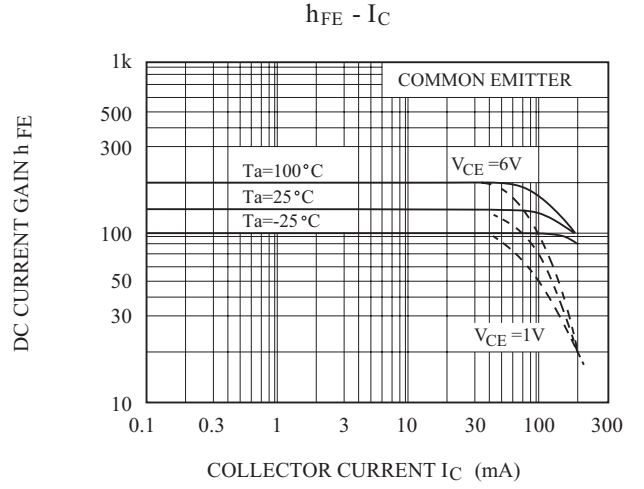
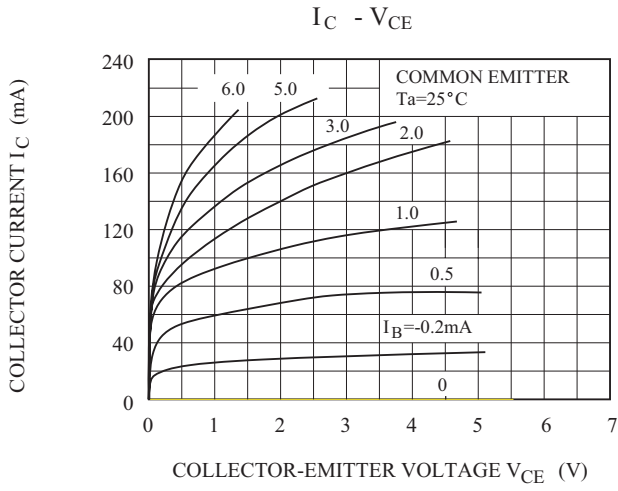
## Q<sub>2</sub> ELECTRICAL CHARACTERISTICS (Ta=25 °C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT.
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=-50V, I_E=0$	-	-	-0.1	$\mu A$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=-5V, I_C=0$	-	-	-0.1	$\mu A$
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

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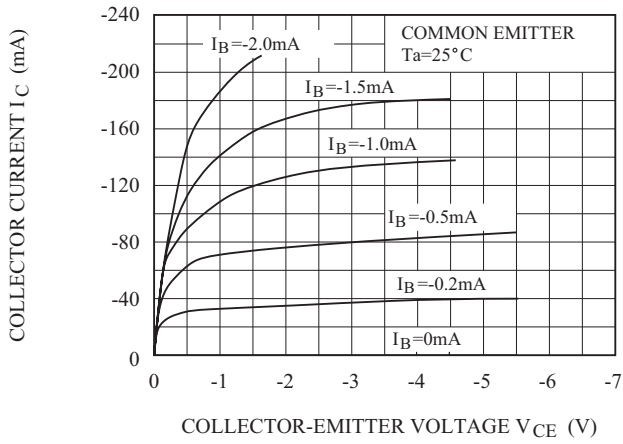
Q<sub>1</sub> (NPN TRANSISTOR)



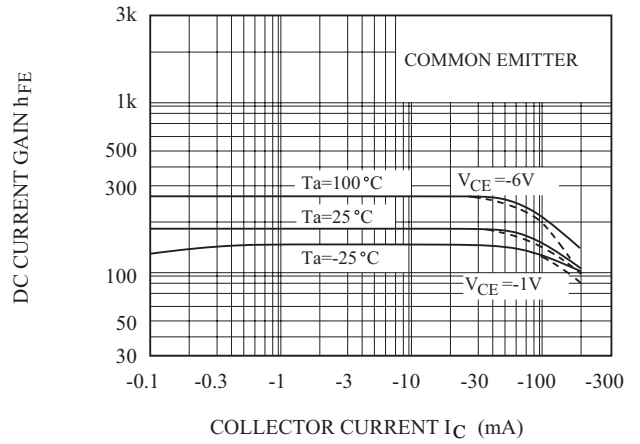
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Q<sub>2</sub> (PNP TRANSISTOR)

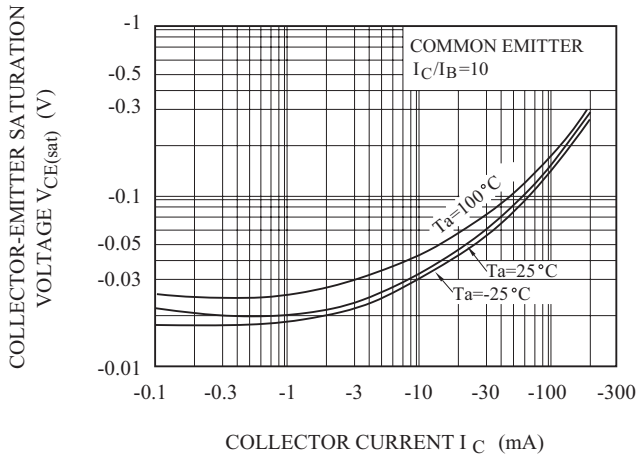
$I_C - V_{CE}$



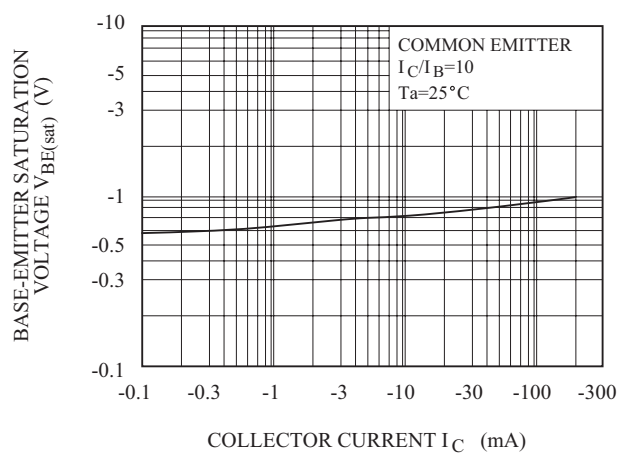
$h_{FE} - I_C$



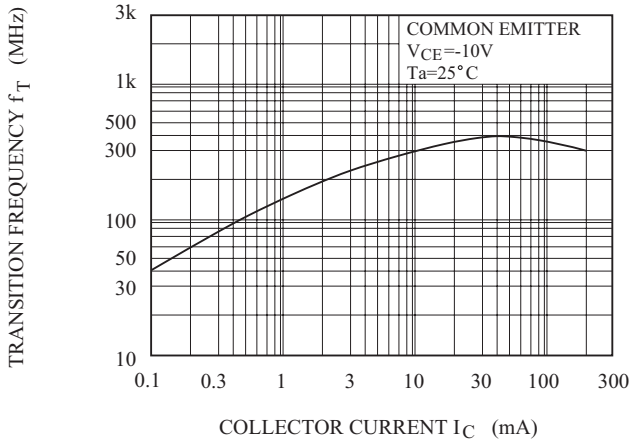
$V_{CE(sat)} - I_C$



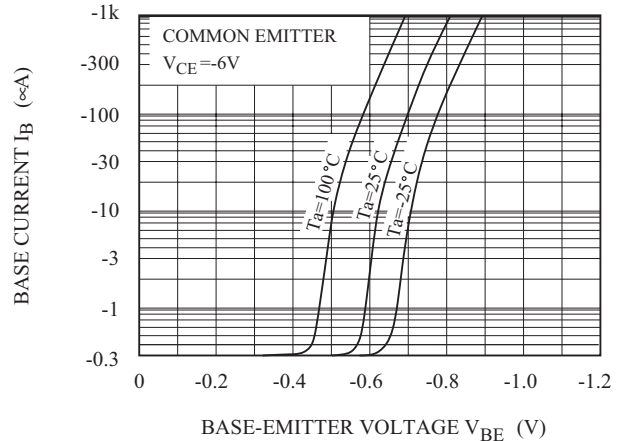
$V_{BE(sat)} - I_C$



$f_T - I_C$



$I_B - V_{BE}$



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