

HN3B01F

AUDIO FREQUENCY GENERAL PURPOSE AMPLIFIER APPLICATIONS.

Q1:

- High Voltage and High Current
: $V_{CEO}=50V$, $I_C=150mA$ (Max.)
- High h_{FE} : $h_{FE}=120\sim400$
- Excellent h_{FE} Linearity
: $h_{FE}(I_C=0.1mA)/h_{FE}(I_C=2mA)=0.95$ (Typ.)

Q2:

- High Voltage and High Current
: $V_{CEO}=-50V$, $I_C=-150mA$ (Max.)
- High h_{FE} : $h_{FE}=120\sim400$
- Excellent h_{FE} Linearity
: $h_{FE}(I_C=-0.1mA)/h_{FE}(I_C=-2mA)=0.95$ (Typ.)

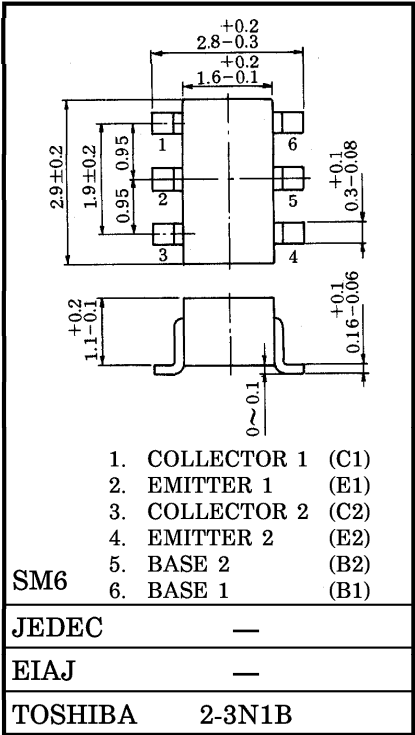
Q1 MAXIMUM RATINGS (Ta = 25°C)

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	150	mA
Base Current	I_B	30	mA

Q2 MAXIMUM RATINGS (Ta = 25°C)

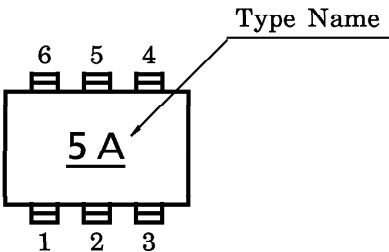
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-150	mA
Base Current	I_B	-30	mA

Unit in mm

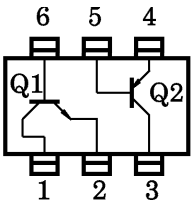


Weight : 0.015g

MARKING



EQUIVALENT CIRCUIT (TOP VIEW)



Q1, Q2 COMMON MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector Power Dissipation	P_C^*	300	mW
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	$-55 \sim 125$	$^\circ\text{C}$

* Total Rating

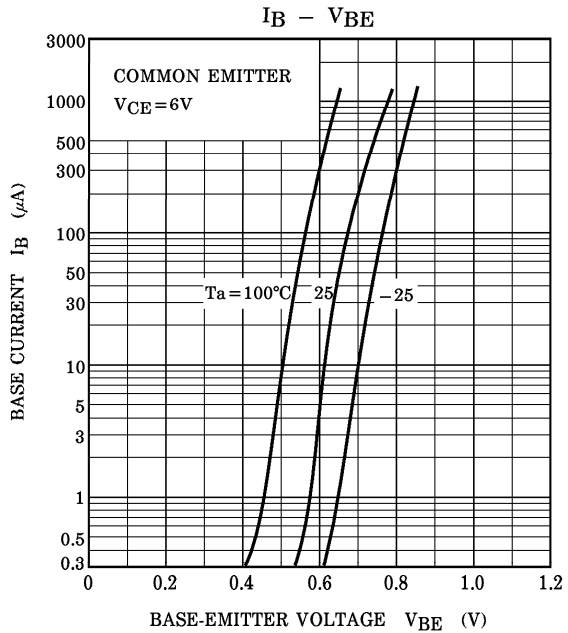
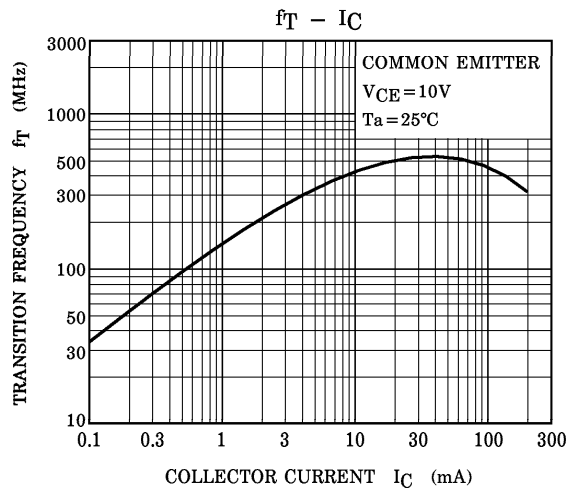
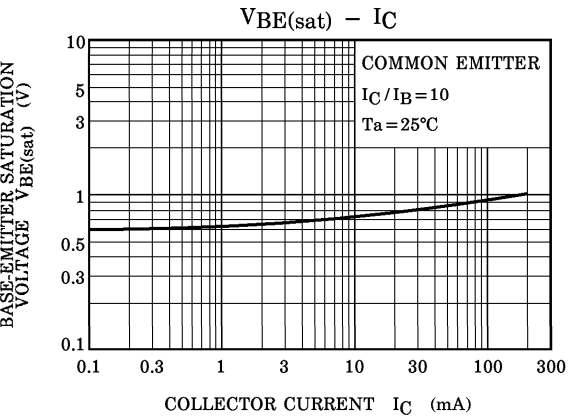
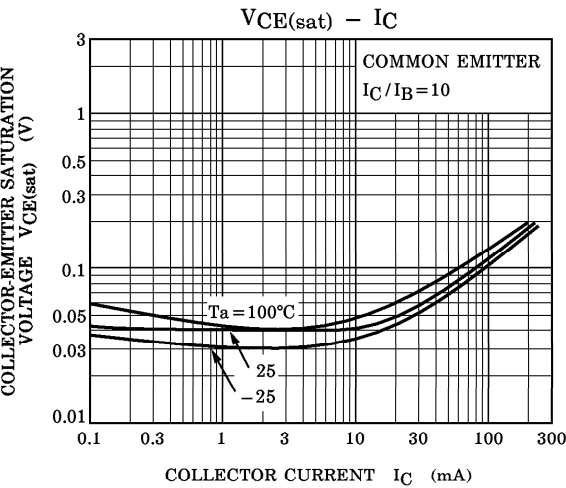
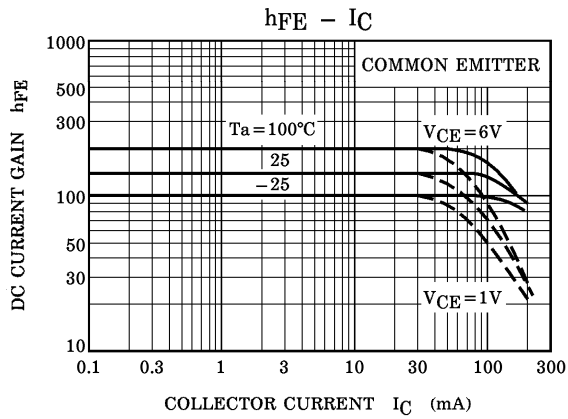
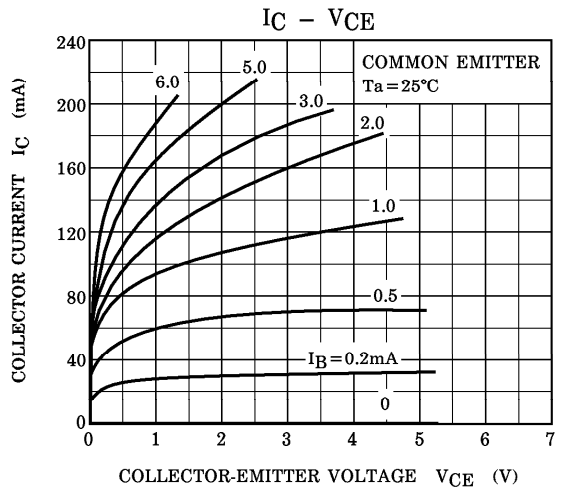
Q1 ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{\text{CB}} = 60\text{V}, I_{\text{E}} = 0$	—	—	0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{\text{EB}} = 5\text{V}, I_{\text{C}} = 0$	—	—	0.1	μA
DC Current Gain	h_{FE}	$V_{\text{CE}} = 6\text{V}, I_{\text{C}} = 2\text{mA}$	120	—	400	
Collector-Emitter Saturation Voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}} = 100\text{mA}, I_{\text{B}} = 10\text{mA}$	—	0.1	0.25	V
Transition Frequency	f_{T}	$V_{\text{CE}} = 10\text{V}, I_{\text{C}} = 1\text{mA}$	—	150	—	MHz
Collector Output Capacitance	C_{ob}	$V_{\text{CB}} = 10\text{V}, I_{\text{E}} = 0$ $f = 1\text{MHz}$	—	2	—	pF

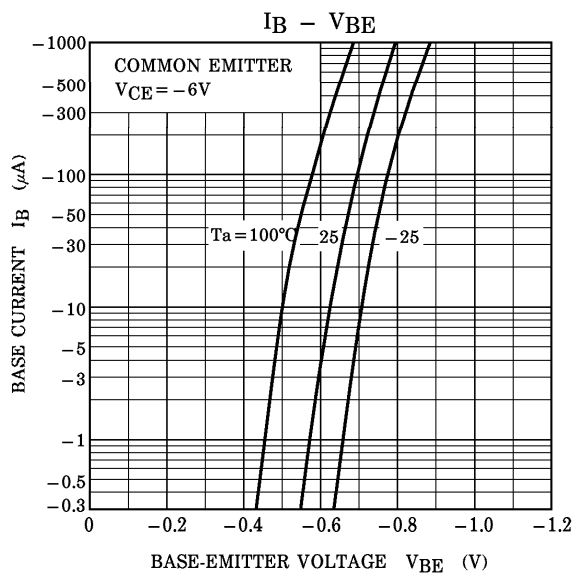
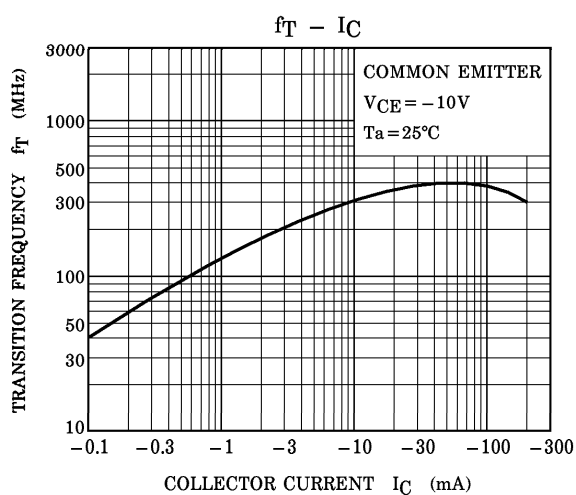
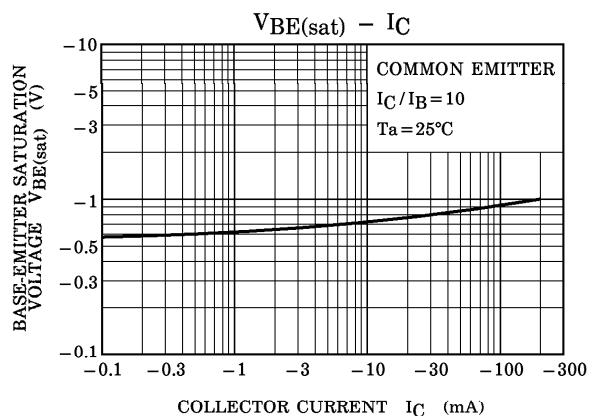
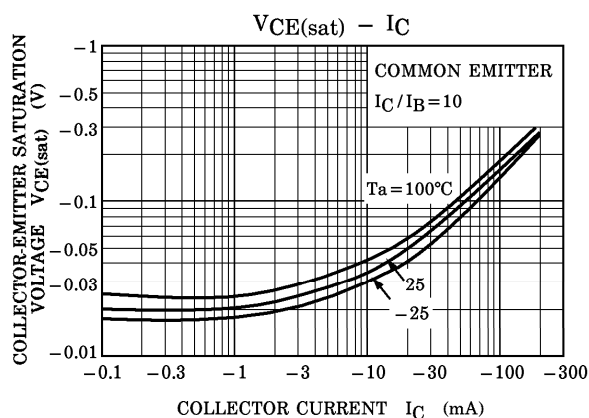
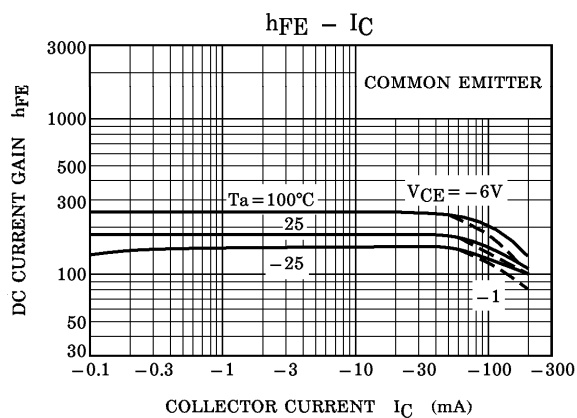
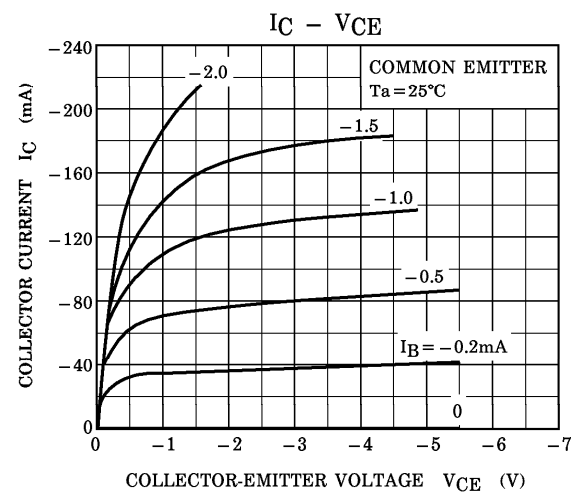
Q2 ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{\text{CB}} = -50\text{V}, I_{\text{E}} = 0$	—	—	-0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{\text{EB}} = -5\text{V}, I_{\text{C}} = 0$	—	—	-0.1	μA
DC Current Gain	h_{FE}	$V_{\text{CE}} = -6\text{V}, I_{\text{C}} = -2\text{mA}$	120	—	400	
Collector-Emitter Saturation Voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}} = -100\text{mA}, I_{\text{B}} = -10\text{mA}$	—	-0.1	-0.3	V
Transition Frequency	f_{T}	$V_{\text{CE}} = -10\text{V}, I_{\text{C}} = -1\text{mA}$	—	120	—	MHz
Collector Output Capacitance	C_{ob}	$V_{\text{CB}} = -10\text{V}, I_{\text{E}} = 0$ $f = 1\text{MHz}$	—	4	—	pF

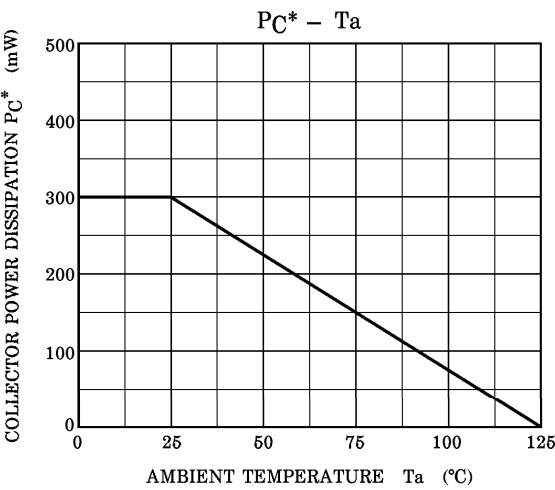
Q1 (NPN TRANSISTOR)



Q2 (PNP TRANSISTOR)



(Q1, Q2 COMMON)



*: Total Rating

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