BD234
BD236
BD238

SILICON PNP EPITAXIAL BASE MESA TYPE

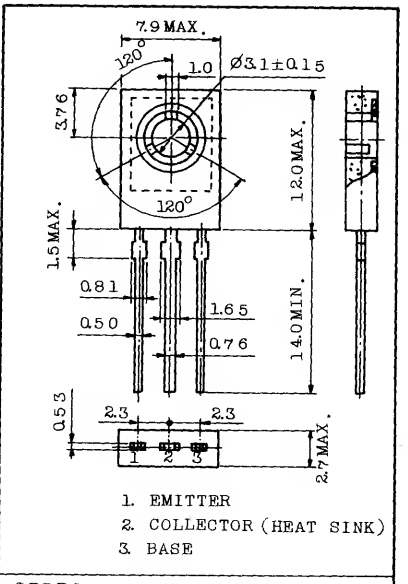
AUDIO POWER AMPLIFIER APPLICATIONS.

VERTICAL DEFLECTION OUTPUT APPLICATIONS IN TV.

FEATURES:

- Designed for Complementary Use with BD233, BD235 and BD237

Unit in mm



1. EMITTER
2. COLLECTOR (HEAT SINK)
3. BASE

JEDEC	TO-126
EIAJ	—
TOSHIBA	2-8F1A

Weight : 0.72g

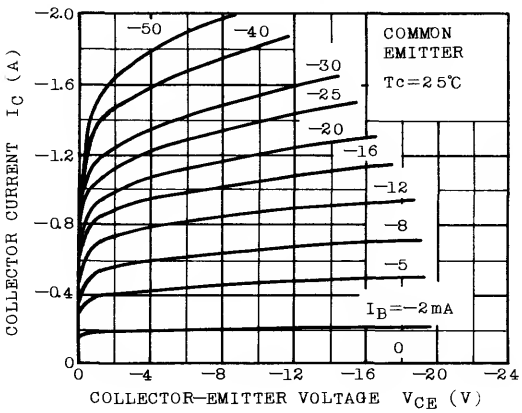
MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	BD234	V_{CBO}	-45	V
	BD236		-60	
	BD238		-100	
Collector-Emitter Voltage	BD234	V_{CEO}	-45	V
	BD236		-60	
	BD238		-80	
Emitter-Base Voltage		V_{EBO}	-5	V
Collector Current	DC	I_C	-2	A
	Peak	I_{CM}	-6	
Base Current		I_B	-2	A
Collector Power Dissipation (Tc=25°C)		P_C	25	W
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	-55~150	°C

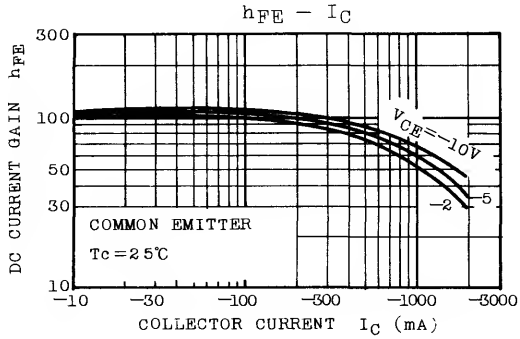
ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	BD234	I_{CBO}	V_{CB}=-45V, I_E=0	-	-	-100	μA
	BD236		V_{CB}=-60V, I_E=0				
	BD238		V_{CB}=-100V, I_E=0				
Emitter Cut-off Current		I_{EBO}	V_{EB}=-5V, I_C=0	-	-	-1	mA
DC Current Gain		$h_{FE(1)}$	V_{CE}=-2V, I_C=-150mA	40	-	-	
		$h_{FE(2)}$	V_{CE}=-2V, I_C=-1A	25	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=-1A, I_B=-0.1A	-	-	-0.6	V
Base-Emitter Voltage		V_{BE}	V_{CE}=-2V, I_C=-1A	-	-	-1.3	V
Transition Frequency		f_T	V_{CE}=-10V, I_C=-250mA	3	35	-	MHz

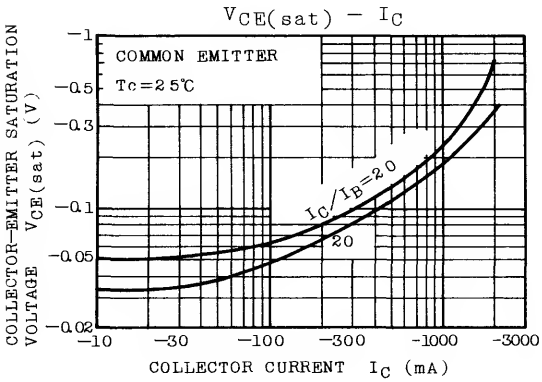
$I_C - V_{CE}$



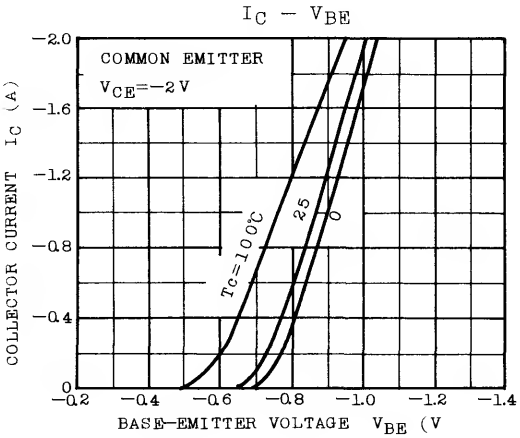
$h_{FE} - I_C$



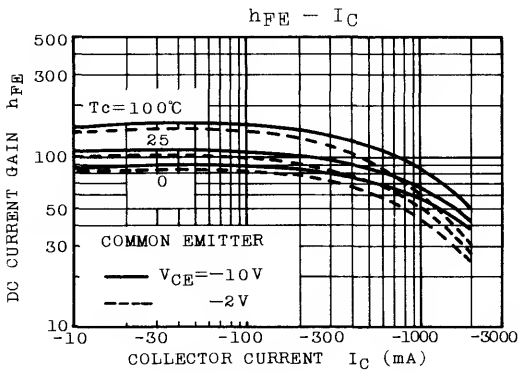
$V_{CE(sat)} - I_C$



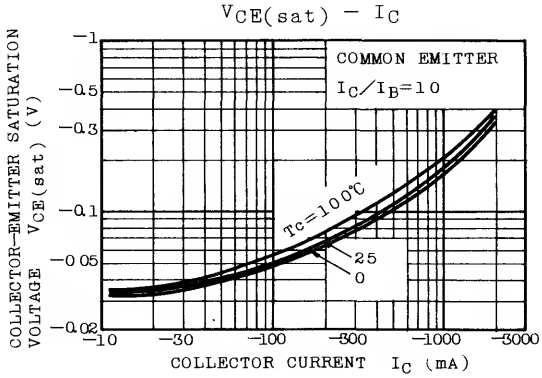
$I_C - V_{BE}$

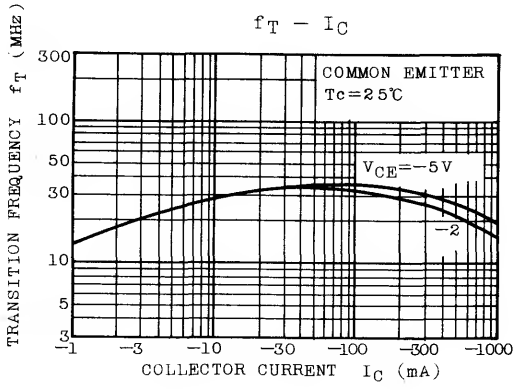


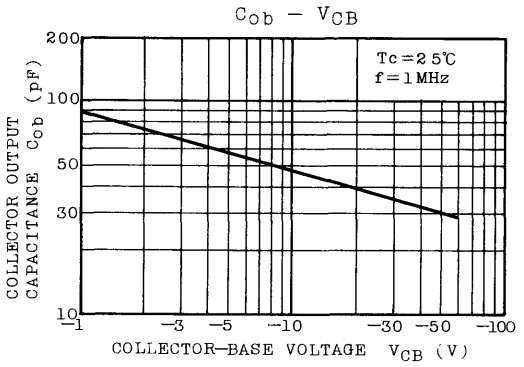
$h_{FE} - I_C$

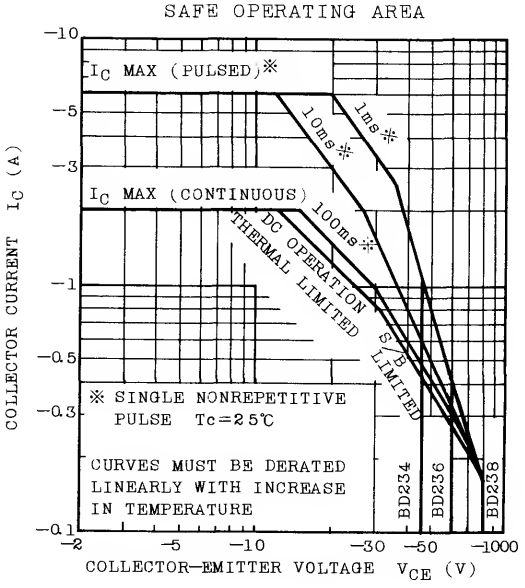


$V_{CE(sat)} - I_C$




$f_T - I_C$
COMMON EMITTER
Tc=25℃
V_{CE}=−5V
−2
TRANSITION FREQUENCY f_T (MHz)
300
100
50
30
10
5
3
−1
−3
−10
−30
−100
−300
−1000
COLLECTOR CURRENT I_C (mA)


$C_{ob} - V_{CB}$
Tc=25℃
f=1MHz
COLLECTOR OUTPUT CAPACITANCE C_{ob} (pF)
200
100
50
30
10
−1
−3
−5
−10
−30
−50
−100
COLLECTOR-BASE VOLTAGE V_{CB} (V)


SAFE OPERATING AREA
I_C MAX (PULSED)※
I_C MAX (CONTINUOUS)
1ms※
10ms※
100ms※
DC OPERATION
THERMAL LIMITED
S/b LIMITED
※ SINGLE NONREPETITIVE PULSE Tc=25℃
CURVES MUST BE DERATED LINEARLY WITH INCREASE IN TEMPERATURE
BD234
BD236
BD238
COLLECTOR CURRENT I_C (A)
−10
−5
−3
−1
−0.5
−0.3
−0.1
−2
−5
−10
−30
−50
−1000
COLLECTOR-EMITTER VOLTAGE V_{CE} (V)