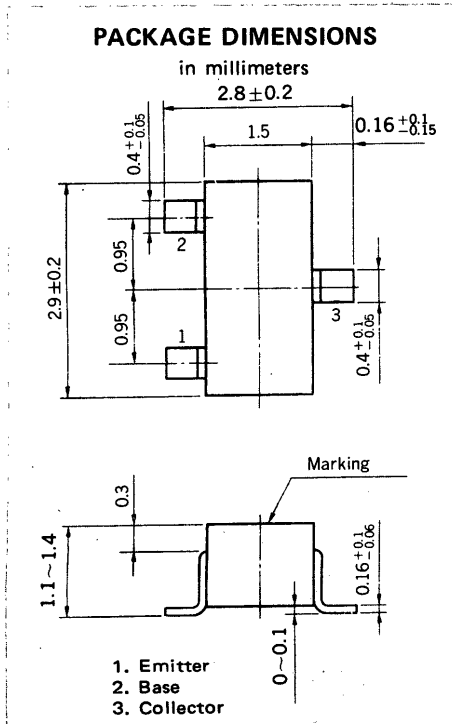


2SD780, 2SD780A

**AUDIO FREQUENCY POWER AMPLIFIER
NPN SILICON EPITAXIAL TRANSISTOR
MINI MOLD**



DESCRIPTION

The 2SD780, 2SD780A are designed for use in small type equipments especially recommended for hybrid integrated circuit and other applications.

FEATURES

- Micro package.
- High DC current gain. $h_{FE} : 200$ TYP. ($V_{CE} = 1.0$ V, $I_C = 50$ mA)
- Complimentary to NEC 2SB736, 2SB736A PNP Transistor.

ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Current ($T_a = 25^\circ\text{C}$)	2SD780	2SD780A	
Collector to Base Voltage	V_{CBO} 60	80	V
Collector to Emitter Voltage	V_{CEO} 60	80	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current (DC)	I_C	300	mA
Maximum Power Dissipation			
Total Power Dissipation			
at 25°C Ambient Temperature	P_T	200	mW
Maximum Temperatures			
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$
Operating Junction Temperature	T_j	150	$^\circ\text{C}$

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

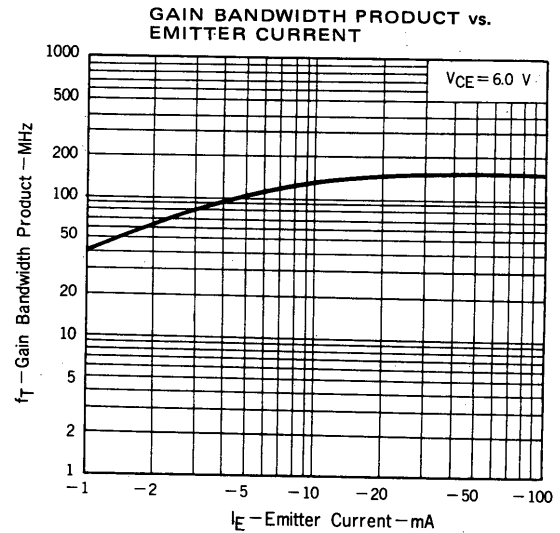
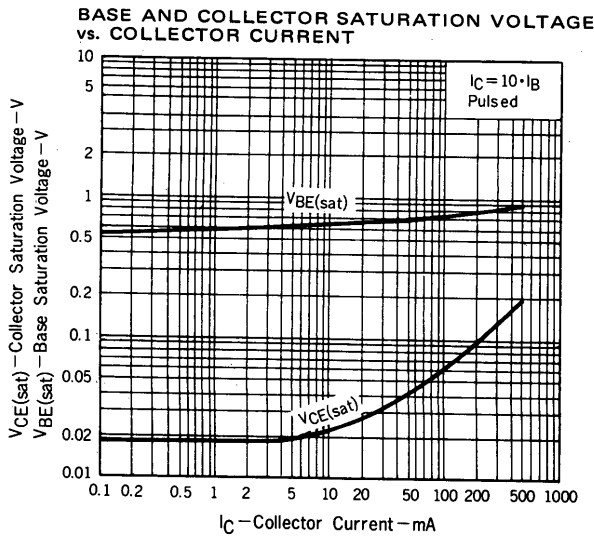
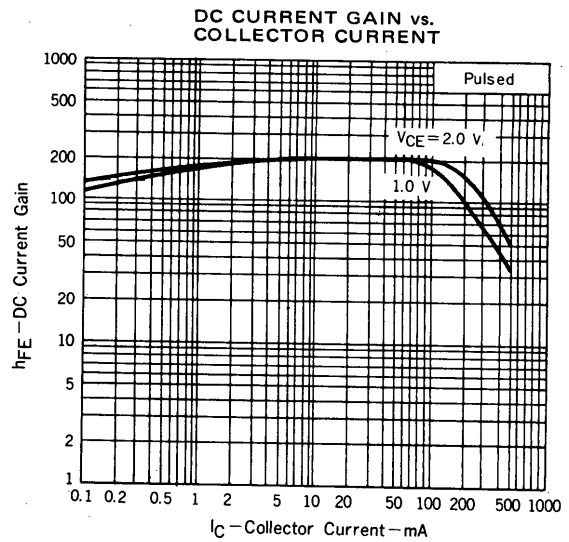
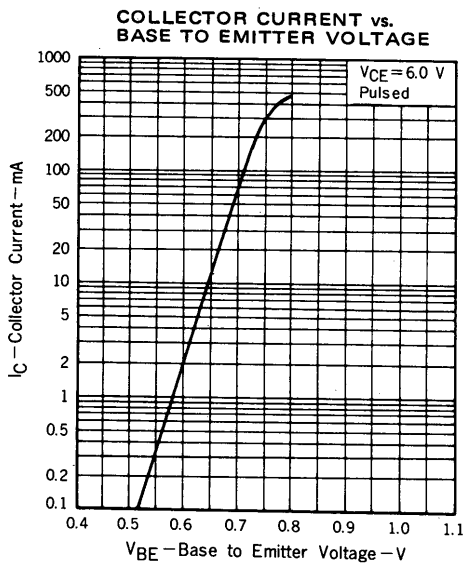
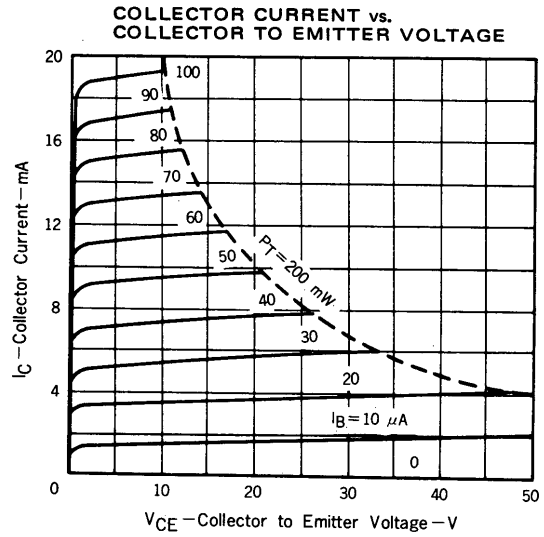
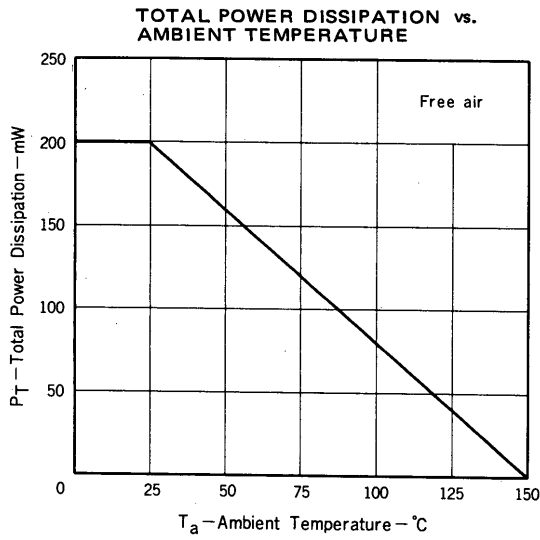
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			100	nA	$V_{CB} = 50$ V, $I_E = 0$
Emitter Cutoff Current	I_{EBO}			100	nA	$V_{EB} = 5.0$ V, $I_C = 0$
DC Current Gain	h_{FE1}	110	200	400		$V_{CE} = 1.0$ V, $I_C = 50$ mA *
DC Current Gain	h_{FE2}	30				$V_{CE} = 2.0$ V, $I_C = 300$ mA *
Base to Emitter Voltage	V_{BE}	600	645	700	mV	$V_{CE} = 6.0$ V, $I_C = 10$ mA *
Collector Saturation Voltage	$V_{CE(sat)}$		0.15	0.6	V	$I_C = 300$ mA, $I_B = 30$ mA *
Output Capacitance	C_{ob}		7.0		pF	$V_{CB} = 6.0$ V, $I_E = 0$, $f = 1.0$ MHz
Gain Bandwidth Product	f_T		140		MHz	$V_{CE} = 6.0$ V, $I_E = -10$ mA

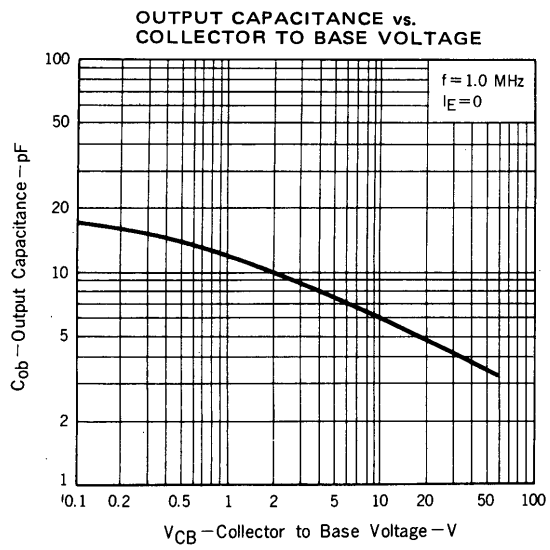
* Pulsed PW ≤ 350 μ s, Duty Cycle ≤ 2 %

h_{FE1} Classification

Marking.	2SD780	DW1	DW2	DW3	DW4	DW5
	2SD780A	D51	D52	D53	D54	D55
h_{FE}	110 to 180	135 to 220	170 to 270	200 to 320	250 to 400	

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





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