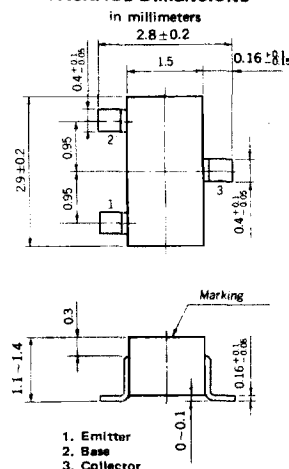


SILICON TRANSISTORS

2SD780, 2SD780A

AUDIO FREQUENCY POWER AMPLIFIER NPN SILICON EPITAXIAL TRANSISTOR MINI MOLD

PACKAGE DIMENSIONS



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 μs , Duty Cycle $\leq 2\%$

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

2SD780, 2SD780A

TYPICAL CHARACTERISTICS (T_a = 25 °C)

