

NPN SILICON POWER TRANSISTOR 2SD882

DESCRIPTION

The 2SD882 is NPN silicon transistor suited for the output stage of 3 watts audio amplifier, voltage regulator, DC-DC converter and relay driver.

FEATURES

- Low saturation voltage.
 $V_{CE(sat)} \leq 0.5 \text{ V}$ (@ $I_C = 2 \text{ A}$, $I_B = 0.2 \text{ A}$)
- Excellent h_{FE} linearity and high h_{FE} .
 $h_{FE} : 60 \text{ to } 400$ (@ $V_{CE} = 2 \text{ V}$, $I_C = 1 \text{ A}$)
- Less cramping space required due to small and thin package and reducing the trouble for attachment to a radiator.
No insulator bushing required.

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures

Storage Temperature $-55 \text{ to } +150^\circ \text{C}$

Junction Temperature 150°C Maximum

Maximum Power Dissipations

Total Power Dissipation ($T_a = 25^\circ \text{C}$) 1.0 W

Total Power Dissipation ($T_c = 25^\circ \text{C}$) 10 W

Maximum Voltages and Currents ($T_a = 25^\circ \text{C}$)

V_{CBO} Collector to Base Voltage 40 V

V_{CEO} Collector to Emitter Voltage 30 V

V_{EBO} Emitter to Base Voltage 5.0 V

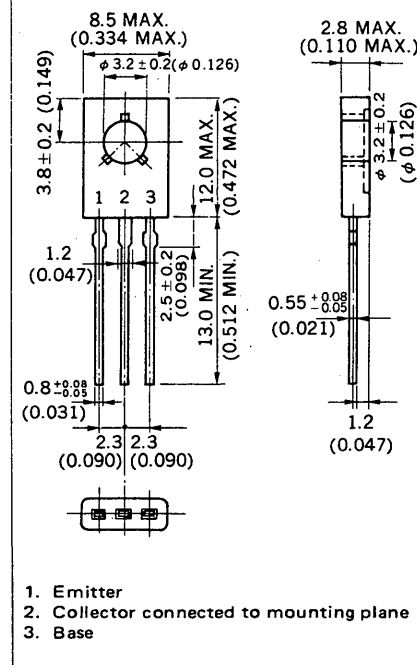
$I_{C(DC)}$ Collector Current (D.C.) 3.0 A

$I_{C(pulse)}$ * Collector Current (pulse) 7.0 A

*Pulse Test $PW \leq 350 \mu\text{s}$, Duty Cycle $\leq 2\%$

PACKAGE DIMENSIONS

in millimeters (inches)



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

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
h_{FE1}	DC Current Gain	30	150			$V_{CE} = 2.0 \text{ V}$, $I_C = 20 \text{ mA}$ **
h_{FE2}	DC Current Gain	60	160	400		$V_{CE} = 2.0 \text{ V}$, $I_C = 1.0 \text{ A}$ **
f_T	Gain Bandwidth Product		90		MHz	$V_{CE} = 5.0 \text{ V}$, $I_C = 0.1 \text{ A}$
C_{ob}	Output Capacitance		45		pF	$V_{CB} = 10 \text{ V}$, $I_E = 0$, $f = 1.0 \text{ MHz}$
I_{CBO}	Collector Cutoff Current			1.0	μA	$V_{CB} = 30 \text{ V}$, $I_E = 0$
I_{EBO}	Emitter Cutoff Current			1.0	μA	$V_{EB} = 3.0 \text{ V}$, $I_C = 0$
$V_{CE(sat)}$	Collector Saturation Voltage		0.3	0.5	V	$I_C = 2.0 \text{ A}$, $I_B = 0.2 \text{ A}$ **
$V_{BE(sat)}$	Base Saturation Voltage		1.0	2.0	V	$I_C = 2.0 \text{ A}$, $I_B = 0.2 \text{ A}$ **

**Pulse Test : $PW \leq 350 \mu\text{s}$, Duty Cycle $\leq 2\%$

Classification of h_{FE}

Rank	R	Q	P	E
Range	60 to 120	100 to 200	160 to 320	200 to 400

Test Conditions : $V_{CE} = 2.0 \text{ V}$, $I_C = 1.0 \text{ A}$

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

