

## 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.

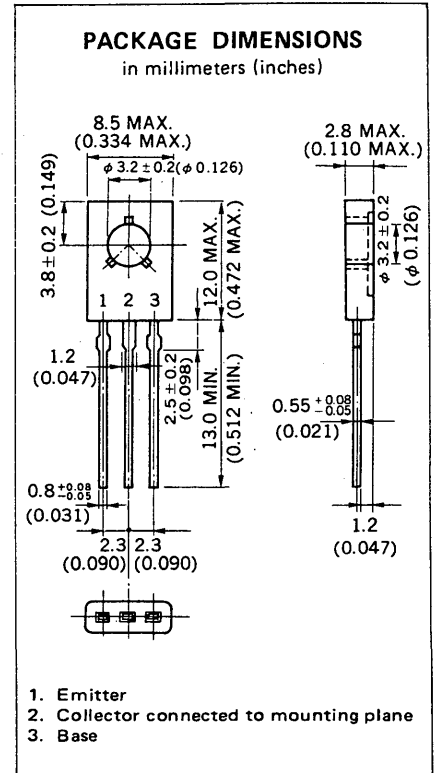
**FEATURES**

- 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 . . . . .  $-55 \text{ to } +150 \text{ }^\circ\text{C}$
  - Junction Temperature . . . . .  $150 \text{ }^\circ\text{C}$  Maximum
- Maximum Power Dissipations
- Total Power Dissipation ( $T_a = 25 \text{ }^\circ\text{C}$ ) . . . . .  $1.0 \text{ W}$
  - Total Power Dissipation ( $T_c = 25 \text{ }^\circ\text{C}$ ) . . . . .  $10 \text{ W}$
- Maximum Voltages and Currents ( $T_a = 25 \text{ }^\circ\text{C}$ )
- $V_{CBO}$  Collector to Base Voltage . . . . .  $40 \text{ V}$
  - $V_{CEO}$  Collector to Emitter Voltage . . . . .  $30 \text{ V}$
  - $V_{EBO}$  Emitter to Base Voltage . . . . .  $5.0 \text{ V}$
  - $I_{C(DC)}$  Collector Current (D.C.) . . . . .  $3.0 \text{ A}$
  - $I_{C(pulse)}$  \* Collector Current (pulse) . . . . .  $7.0 \text{ A}$

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



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

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	$\mu\text{A}$	$V_{CB} = 30 \text{ V}$ , $I_E = 0$
$I_{EBO}$	Emitter Cutoff Current			1.0	$\mu\text{A}$	$V_{EB} = 3.0 \text{ V}$ , $I_C = 0$
$V_{CE(sat)}$	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 ( $T_a = 25^\circ\text{C}$ )

