

**isc Silicon NPN Power Transistor**
**2SD880**
**DESCRIPTION**

- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 60V(\text{Min})$
- Low Collector-Emitter Saturation Voltage-  
:  $V_{CE(\text{sat})} = 1.0V(\text{Max}) @ I_C = 3.0A$
- Complement to Type 2SB834
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

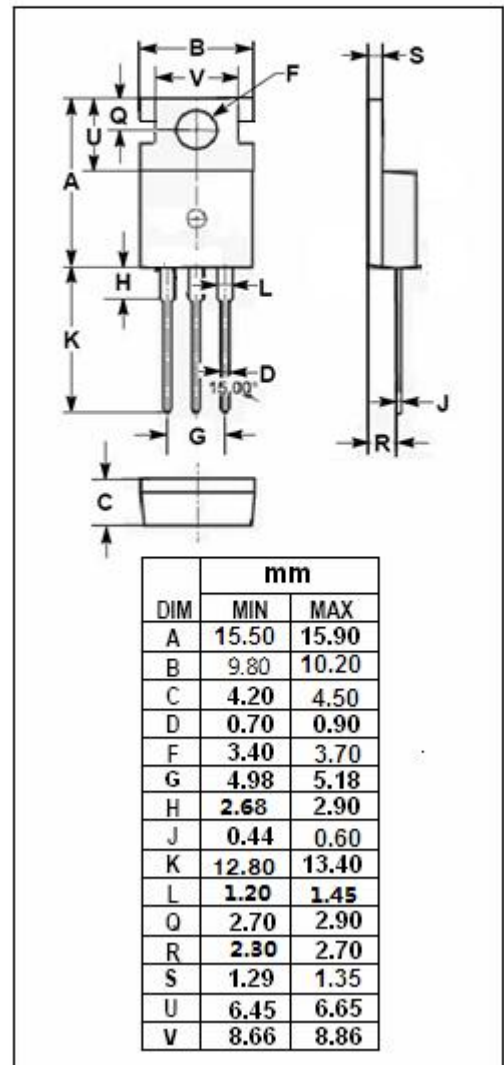
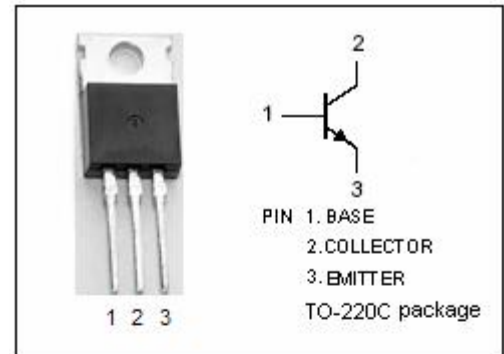
- Designed for use in audio frequency power amplifier applications

**ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	60	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	3.0	A
$I_{CM}$	Collector Current-Peak	6.0	A
$I_B$	Base Current-Continuous	0.5	A
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	30	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{\text{stg}}$	Storage Temperature Range	-55~150	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	MAX	UNIT
$R_{\text{th}j-c}$	Thermal Resistance, Junction to Case	4.16	$^\circ\text{C}/\text{W}$



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**ELECTRICAL CHARACTERISTICS**

 T<sub>c</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = 10mA ; I <sub>B</sub> = 0	60			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 1mA ; I <sub>C</sub> = 0	7			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 3.0A; I <sub>B</sub> = 0.3A			1.0	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 0.5A ; V <sub>CE</sub> = 5V			1.0	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 60V ; I <sub>E</sub> = 0			100	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 7V ; I <sub>C</sub> = 0			100	μ A
h <sub>FE</sub>	DC Current Gain	I <sub>C</sub> = 0.5A ; V <sub>CE</sub> = 5V	60		300	
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 0.5A; V <sub>CE</sub> = 5V; f <sub>test</sub> = 1.0MHz		3.0		MHz

## Switching times

t <sub>on</sub>	Turn-on Time	I <sub>C</sub> = 2A , I <sub>B1</sub> = I <sub>B2</sub> = 200mA P <sub>W</sub> = 20 μ S; V <sub>CC</sub> =30V			1.2	μ s
t <sub>stg</sub>	Storage Time				2.0	μ s
t <sub>f</sub>	Fall Time				1.1	μ s

**◆ h<sub>FE</sub> Classifications**

O	Y	GR
60-120	100-200	150-300

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