

# isc Silicon NPN Power Transistor

## 2SD844

### DESCRIPTION

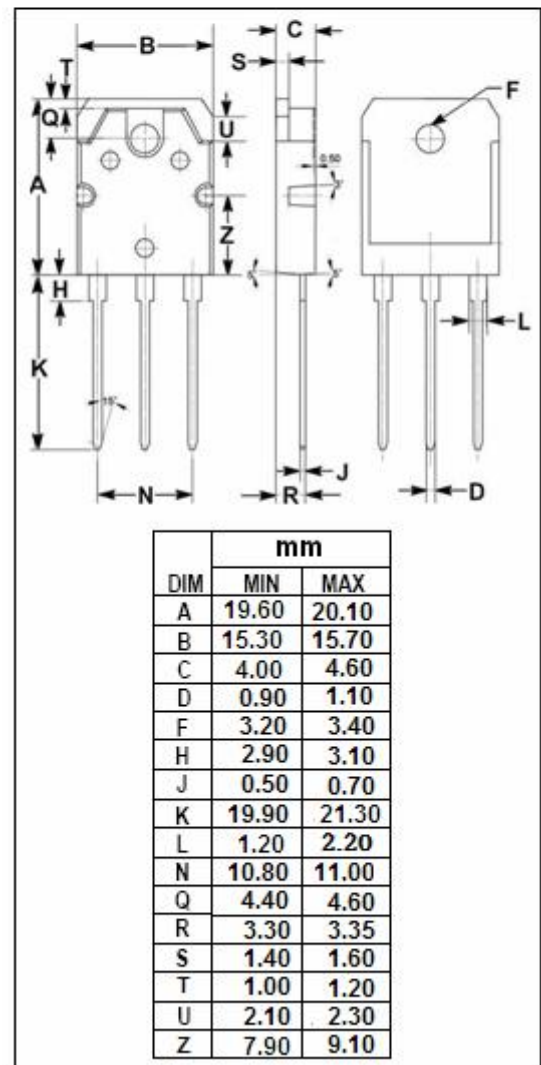
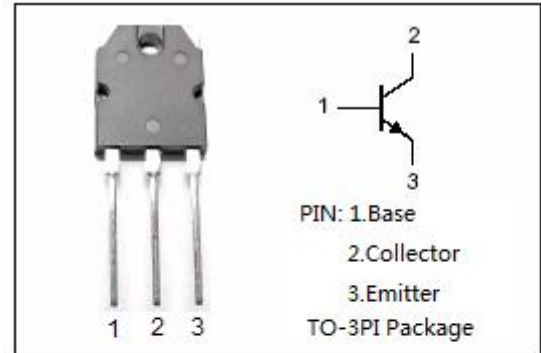
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 50V$  (Min)
- Low Collector-Emitter Saturation Voltage-  
:  $V_{CE(sat)} = 0.4V$  (Max)@ $I_C = 4A$
- High Collector Power Dissipation  
:  $P_C = 60W$  @ $T_C = 25^\circ C$
- Complement to Type 2SB754
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### APPLICATIONS

- High current switching applications
- Power amplifier applications

### ABSOLUTE MAXIMUM RATINGS( $T_a = 25^\circ C$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	50	V
$V_{CEO}$	Collector-Emitter Voltage	50	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	7	A
$I_E$	Emitter Current-Continuous	7	A
$P_C$	Collector Power Dissipation @ $T_a = 25^\circ C$	2.5	W
	Collector Power Dissipation @ $T_C = 25^\circ C$	60	
$T_J$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ C$



**isc Silicon NPN Power Transistor****2SD844****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	50			V
V <sub>(BR)EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = 1mA ; I <sub>C</sub> = 0	5			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 4A ; I <sub>B</sub> = 0.4A		0.2	0.4	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 4A ; V <sub>CE</sub> = 1V		0.9	1.2	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 50V ; I <sub>E</sub> = 0			10	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V ; I <sub>C</sub> = 0			10	μ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 1A ; V <sub>CE</sub> = 1V	70		240	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 4A ; V <sub>CE</sub> = 1V	30			

**◆ h<sub>FE-1</sub> Classifications**

O	Y
70-140	120-240

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