

isc Silicon NPN Power Transistor

2SD843

DESCRIPTION

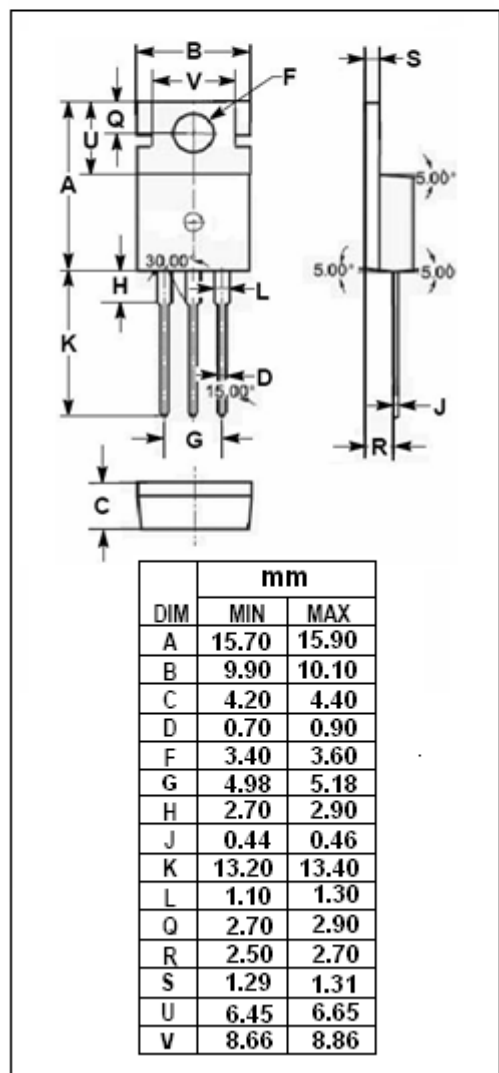
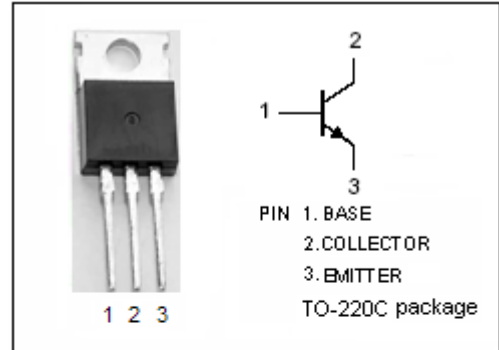
- High Collector Current::  $I_C = 7A$
- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = 0.5V(Max) @ I_C = 4A$
- High Collector Power Dissipation
- Complement to Type 2SB753

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	100	V
$V_{CEO}$	Collector-Emitter Voltage	80	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	7	A
$P_C$	Collector Power Dissipation @ $T_a=25^\circ C$	1.5	W
	Total Power Dissipation @ $T_C=25^\circ C$	40	
$T_J$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ C$



**isc Silicon NPN Power Transistor****2SD843****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> = 50mA ; I <sub>B</sub> = 0	80			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 0.4A			0.5	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 4A; I <sub>B</sub> = 0.4A			1.4	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 100V ; I <sub>E</sub> = 0			5	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			5	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			
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 1A ; V <sub>CE</sub> = 4V		10		MHz
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f <sub>test</sub> = 1MHz		250		pF

## Switching times

t <sub>on</sub>	Turn-on Time	R <sub>L</sub> = 10 Ω, V <sub>CC</sub> = 30V I <sub>B1</sub> = -I <sub>B2</sub> = 0.3A		0.4		μ s
t <sub>stg</sub>	Storage Time			2.5		μ s
t <sub>f</sub>	Fall Time			0.5		μ s

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

O	Y
70-140	120-240