

SPTECH Silicon NPN Power Transistor

2SD844

DESCRIPTION

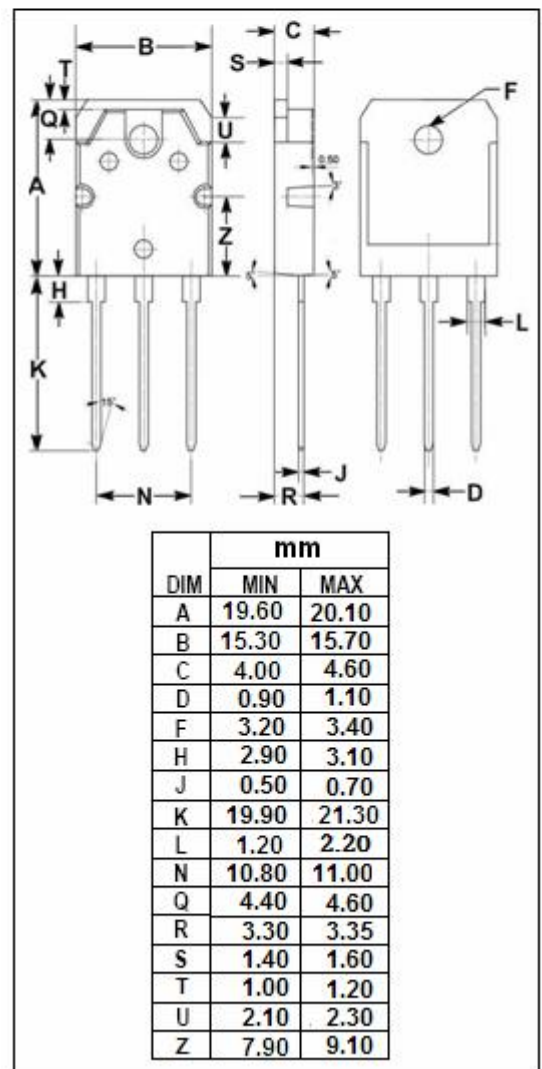
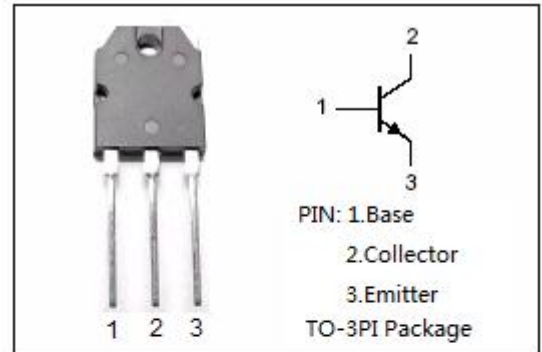
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = 50V$ (Min)
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(sat)} = 0.4V$ (Max)@ $I_C = 4A$
- High Collector Power Dissipation
: $P_C = 60W$ @ $T_C = 25^\circ C$
- Complement to Type 2SB754

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	$^\circ C$



ELECTRICAL CHARACTERISTICS

$T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C= 10\text{mA} ; I_B= 0$	50			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E= 1\text{mA} ; I_C= 0$	5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 4\text{A} ; I_B= 0.4\text{A}$		0.2	0.4	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C= 4\text{A} ; V_{CE}= 1\text{V}$		0.9	1.2	V
I_{CBO}	Collector Cutoff Current	$V_{CB}= 50\text{V} ; I_E= 0$			10	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}= 5\text{V} ; I_C= 0$			10	μA
h_{FE-1}	DC Current Gain	$I_C= 1\text{A} ; V_{CE}= 1\text{V}$	70		240	
h_{FE-2}	DC Current Gain	$I_C= 4\text{A} ; V_{CE}= 1\text{V}$	30			
f_T	Current-Gain—Bandwidth Product	$I_C= 1\text{A} ; V_{CE}= 5\text{V}$		15		MHz
C_{OB}	Output Capacitance	$I_E= 0 ; V_{CB}= 10\text{V} ; f_{test}= 1.0\text{MHz}$		250		pF

◆ **h_{FE-1} Classifications**

O	Y
70-140	120-240