

SPTECH Silicon PNP Power Transistor

BD954

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = -100V(\text{Min})$
- DC Current Gain-
: $h_{FE} = 40(\text{Min}) @ I_C = -500mA$
- Complement to Type BD953

APPLICATIONS

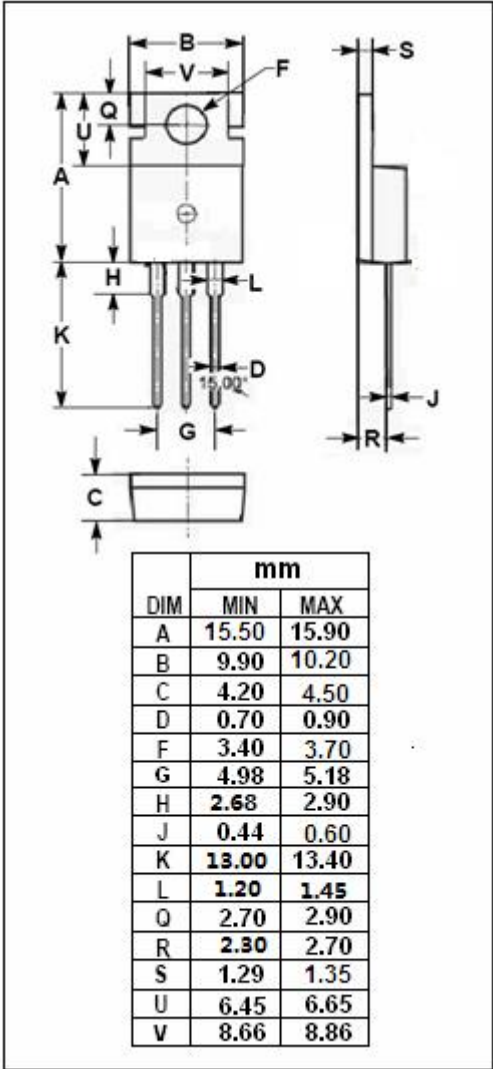
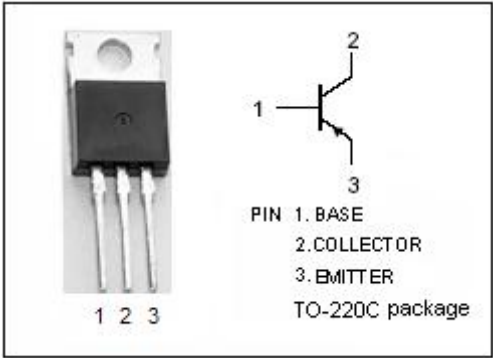
- Designed for power amplifier and switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-100	V
V_{CEO}	Collector-Emitter Voltage	-100	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-5	A
I_{CM}	Collector Current-Peak	-8	A
P_C	Collector Power Dissipation @ $T_C=25^{\circ}C$	40	W
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-65~150	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	3.12	$^{\circ}C/W$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	70	$^{\circ}C/W$



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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	$I_C = -1\text{mA}$; $I_B = 0$	-100			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = -1\text{mA}$; $I_E = 0$	-100			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	$I_C = -2\text{A}$; $I_B = -0.2\text{A}$			-1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -2\text{A}$; $V_{CE} = -4\text{V}$			-1.4	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -100\text{V}$; $I_E = 0$			-50	μA
		$V_{CB} = -50\text{V}$; $I_E = 0$, $T_J = 150^{\circ}\text{C}$			-1.0	mA
I_{CEO}	Collector Cutoff Current	$V_{CE} = -50\text{V}$; $I_B = 0$			-0.1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}$; $I_C = 0$			-0.2	mA
h_{FE-1}	DC Current Gain	$I_C = -500\text{mA}$; $V_{CE} = -4\text{V}$	40			
h_{FE-2}	DC Current Gain	$I_C = -2\text{A}$; $V_{CE} = -4\text{V}$	20			
f_T	Current-Gain—Bandwidth Product	$I_C = -500\text{mA}$; $V_{CE} = -4\text{V}$	3			MHz

Switching Times

t_{on}	Turn-On Time	$I_C = -1.0\text{A}$; $I_{B1} = -I_{B2} = -0.1\text{A}$; $V_{CC} = -20\text{V}$; $R_L = 20\ \Omega$		0.1		μs
t_{off}	Turn-Off Time			0.4		μs