

SPTECH Silicon PNP Power Transistor

MJE15031

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 150V(\text{Min})$
- High Current Gain-Bandwidth Product-
: $f_T = 30\text{MHz}(\text{Min}) @ I_C = 0.5A$
- DC current gain -
: $h_{FE} = 40 (\text{Min}) @ I_C = 3.0 A$
: $h_{FE} = 20 (\text{Min}) @ I_C = 4.0 A$
 - Complement to Type MJE15030

APPLICATIONS

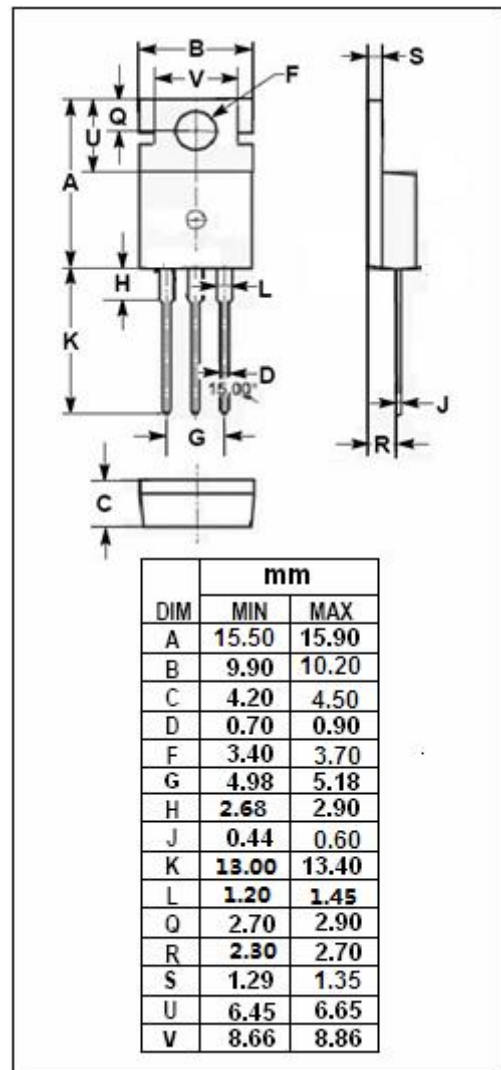
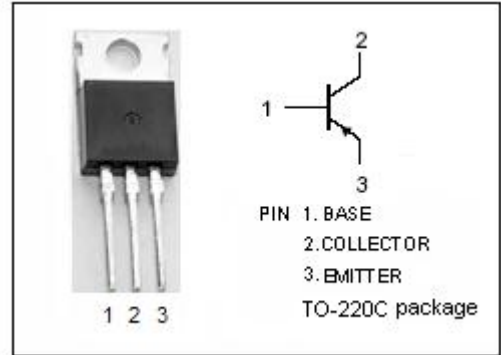
- Designed for use as high-frequency drivers in audio amplifiers.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-150	V
V_{CEO}	Collector-Emitter Voltage	-150	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current-Continuous	-8	A
I_{CM}	Collector Current-Peak	-16	A
I_B	Base Current	-2	A
P_C	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	50	
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	2.5	$^\circ\text{C/W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = -10\text{mA}; I_B = 0$	-150		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -1\text{A}; I_B = -0.1\text{A}$		-0.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -1\text{A}; V_{CE} = -2\text{V}$		-1.0	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = -150\text{V}; I_E = 0$		-10	μA
I_{CEO}	Collector Cutoff Current	$V_{CE} = -150\text{V}; I_B = 0$		-0.1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$		-10	μA
h_{FE-1}	DC Current Gain	$I_C = -0.1\text{A}; V_{CE} = -2\text{V}$	40		
h_{FE-2}	DC Current Gain	$I_C = -2\text{A}; V_{CE} = -2\text{V}$	40	200	
h_{FE-3}	DC Current Gain	$I_C = -3\text{A}; V_{CE} = -2\text{V}$	40		
h_{FE-4}	DC Current Gain	$I_C = -4\text{A}; V_{CE} = -2\text{V}$	20		
f_T	Current Gain-Bandwidth Product	$I_C = -0.5\text{A}; V_{CE} = -10\text{V}; f_{test} = 10\text{MHz}$	20		MHz

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