

SPTECH Silicon NPN Power Transistor

MJE15028

DESCRIPTION

- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 120V(\text{Min})$
- 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 MJE15029

APPLICATIONS

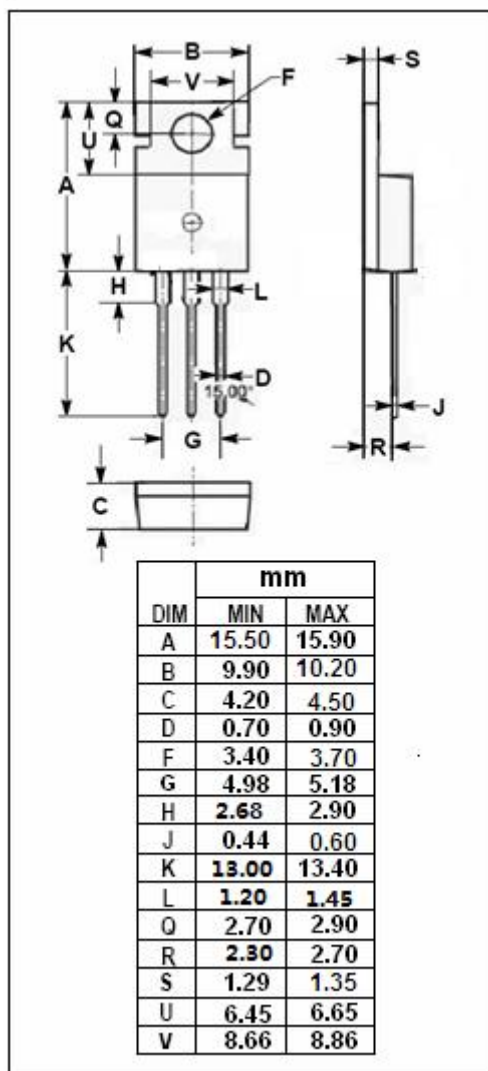
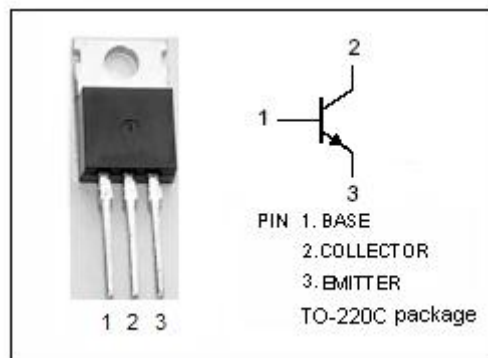
- Designed for use as high-frequency drivers in audio amplifiers.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	120	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_j=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 10mA ; I _B = 0	120		V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 1A ; I _B = 0.1A		0.5	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 1A ; V _{CE} = 2V		1.0	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 120V; I _E = 0		10	μ A
I _{CEO}	Collector Cutoff Current	V _{CE} = 120V; I _B = 0		0.1	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0		10	μ A
h _{FE-1}	DC Current Gain	I _C = 0.1A ; V _{CE} = 2V	40		
h _{FE-2}	DC Current Gain	I _C = 2A ; V _{CE} = 2V	40		
h _{FE-3}	DC Current Gain	I _C = 3A ; V _{CE} = 2V	40		
h _{FE-4}	DC Current Gain	I _C = 4A ; V _{CE} = 2V	20		
f _T	Current Gain-Bandwidth Product	I _C = 0.5A; V _{CE} = 10V; f _{test} = 10MHz	20		MHz