

# SPTECH Product Specification

## SPTECH Silicon NPN Power Transistor

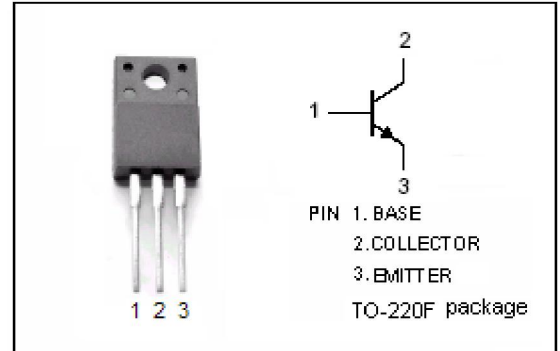
2SC5171

### DESCRIPTION

- High Transition Frequency :  $f_T=200\text{MHz(Typ.)}$
- Complementary to 2SA1930

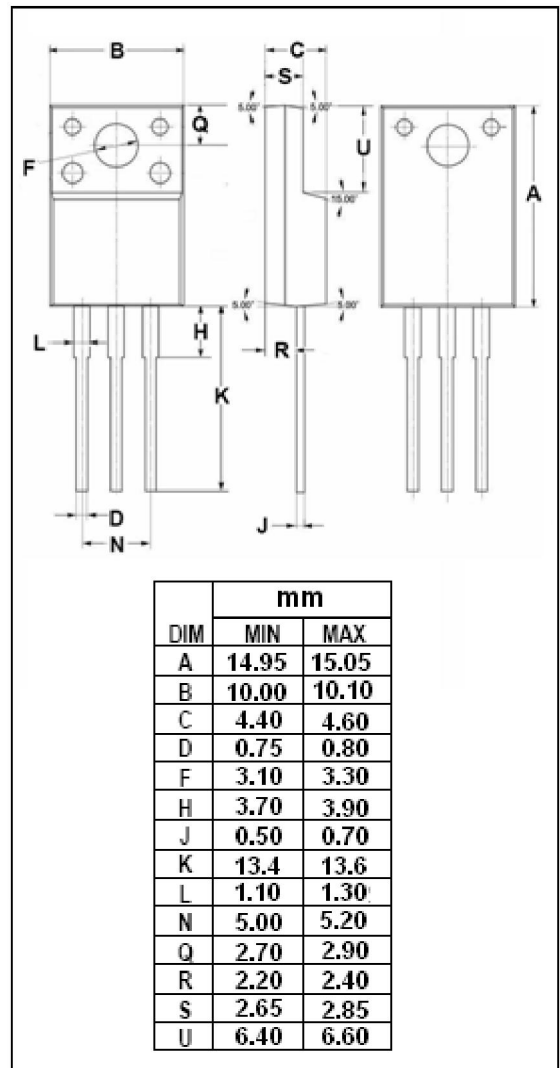
### APPLICATIONS

- Power amplifier applications
- Driver stage amplifier applications



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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	180	V
$V_{CEO}$	Collector-Emitter Voltage	180	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current-Continuous	2	A
$I_B$	Base Current-Continuous	1	A
$P_c$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	20	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



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### ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE0(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C= 10\text{mA}; I_B= 0$	180			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C= 1.0\text{A}; I_B= 0.1\text{A}$			1.0	V
$V_{BE(on)}$	Base-Emitter Voltage	$I_C= 1\text{A}; V_{CE}= 5\text{V}$			1.5	V
$I_{CBO}$	Collector Cutoff Current	At rated Voltage			5	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	At rated Voltage			5	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C= 0.1\text{A}; V_{CE}= 5\text{V}$	100		320	
$h_{FE-2}$	DC Current Gain	$I_C= 1\text{A}; V_{CE}= 5\text{V}$	40			
$C_{ob}$	Collector Output Capacitance	$I_E= 0; V_{CB}= 10\text{V}, f=1\text{MHz}$		16		pF
$f_T$	Current-Gain—Bandwidth Product	$I_C= 0.3\text{A}; V_{CE}= 5\text{V}$		200		MHz