

isc Silicon NPN Power Transistor
2SC5171
DESCRIPTION

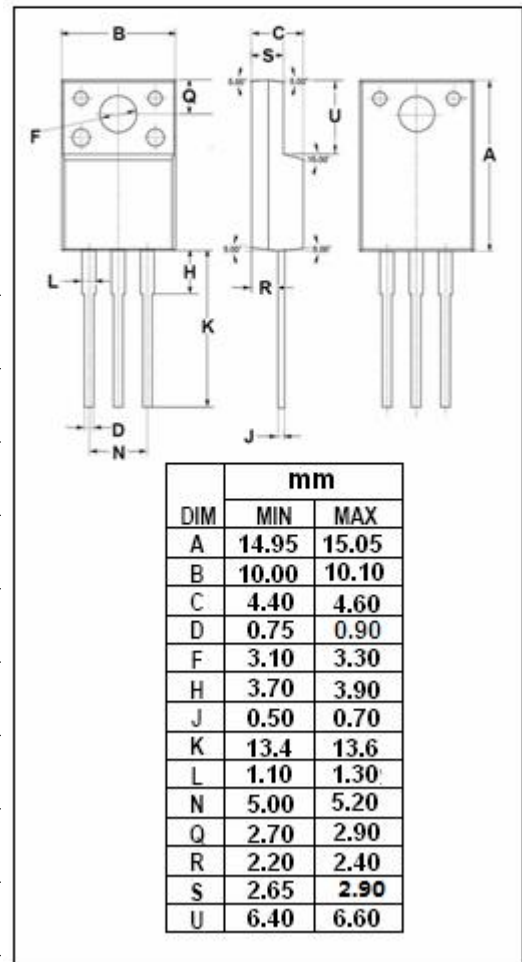
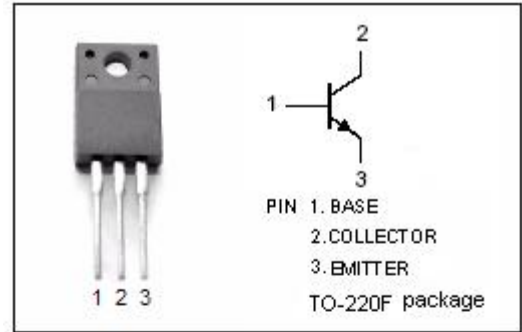
- High Transition Frequency : $f_T=200\text{MHz(Typ.)}$
- Complementary to 2SA1930
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

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
$V_{CEQ(SUS)}$	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	μA
I_{EBO}	Emitter Cutoff Current	At rated Voltage			5	μA
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

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