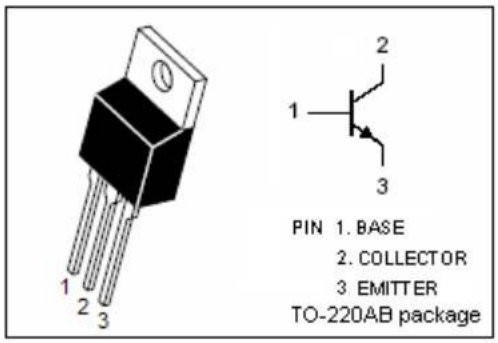
SPTECH Silicon NPN Power Transistor 2SC1971-2

DESCRIPTION

- High Power Gain-
  : G_{pe} ≥ 7dB, P_O= 6W; V_{CE}= 13.5V
- High Reliability



APPLICATIONS

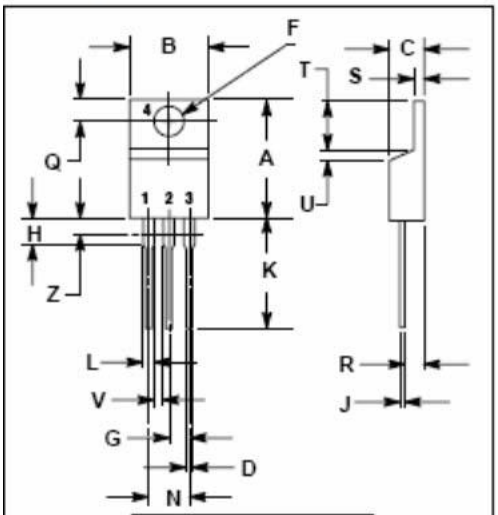
- Designed for RF power amplifiers on VHF band mobile radio applications.

ABSOLUTE MAXIMUM RATINGS (T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	35	V
V_{CEO}	Collector-Emitter Voltage R_{BE}= ∞	17	V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Collector Current	2	A
P_C	Collector Power Dissipation @T_C=25℃	12.5	W
	Collector Power Dissipation @T_a=25℃	1.5	
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	83	℃/W
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	10	℃/W



DIM	mm MIN	mm MAX
A	14.48	16.50
B	9.66	10.70
C	4.00	4.82
D	0.70	1.00
F	2.90	3.10
G	2.42	2.66
H	2.80	3.93
J	0.46	0.64
K	12.50	14.27
L	1.15	1.52
N	4.83	5.33
Q	2.54	3.04
R	2.04	2.79
S	1.15	1.39
T	6.50	6.90
U	0.00	1.27
V	1.15	---
Z	---	2.04

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C= 10mA, I_E= 0	35			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 50mA; R_{BE}= ∞	17			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 5mA, I_C= 0	4			V
I_{CBO}	Collector Cutoff Current	V_{CB}= 25V; I_E= 0			0.5	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 3V; I_C= 0			0.5	mA
h_{FE}	DC Current Gain	I_C= 0.1A; V_{CE}= 10V	10		180	
P_O	Output Power	V_{CC}= 13.5V; P_{in}= 0.6W; f= 175MHz	6			W
η_C	Collector Efficiency		7			DB
C_{OB}	Output Capacitance	I_E= 0; V_{CB}= 20V, f_{test}= 1MHz			18	pF