

isc Silicon NPN Power Transistor**2SC1970****DESCRIPTION**

- High Power Gain-
: $G_{pe} \geq 9.2\text{dB}$, $f = 175\text{MHz}$, $P_O = 1\text{W}$; $V_{CC} = 13.5\text{V}$
- High Reliability

APPLICATIONS

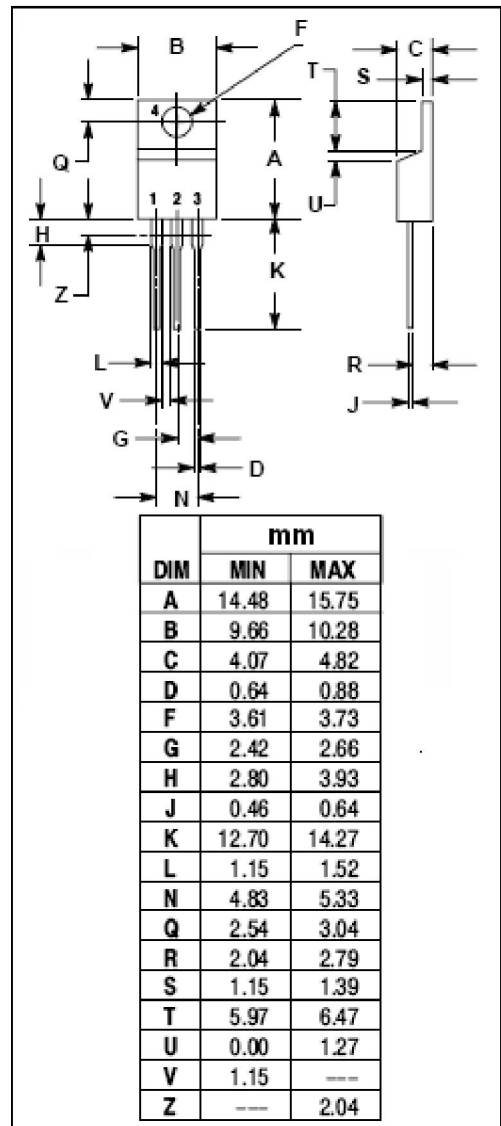
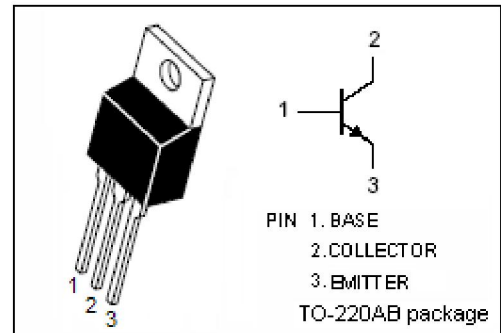
- Designed for RF power amplifiers on VHF band mobile radio applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage $R_{BE} = \infty$	17	V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Collector Current	0.6	A
P_C	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	5	W
	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	1	
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	125	$^\circ\text{C/W}$
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	25	$^\circ\text{C/W}$



isc Silicon NPN Power Transistor**2SC1970****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 5mA, I _E = 0	40			V
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 50mA; R _{BE} = ∞	17			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 1mA, I _C = 0	4			V
I _{CBO}	Collector Cutoff Current	V _{CB} = 25V; I _E = 0			0.1	mA
I _{EBO}	Emitter Cutoff Current	V _{EB} = 3V; I _C = 0			0.1	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} = 0.12W; f= 175MHz	1	1.2		W
η _C	Collector Efficiency		50	60		%

◆ **h_{FE} Classifications**

X	A	B	C	D
10-25	20-45	35-70	55-110	90-180