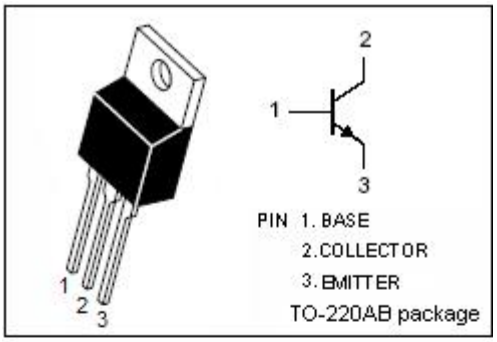
isc Silicon NPN Power Transistor 2SC2166

DESCRIPTION

- High Power Gain-
  : G_{pe} ≥ 13.8dB @f= 27MHz, P_O= 6W; V_{CC}= 12V
- High Reliability
- Minimum Lot-to-Lot variations for robust device performance and reliable operation.



APPLICATIONS

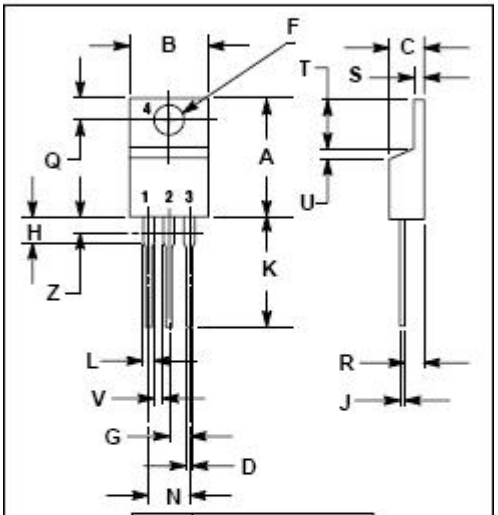
- Designed for 3 to 4 watts output power amplifiers in HF band mobile radio applications.

ABSOLUTE MAXIMUM RATINGS (T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	45	V
V_{CER}	Collector-Emitter Voltage R_{BE}= 10Ω	45	V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Collector Current	4	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	15.75
B	9.66	10.28
C	4.07	4.82
D	0.64	0.88
F	3.61	3.73
G	2.42	2.66
H	2.80	3.93
J	0.46	0.64
K	12.70	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	5.97	6.47
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= 1mA, I_E= 0	45			V
$V_{(BR)CER}$	Collector-Emitter Breakdown Voltage	I_C= 10mA; R_{BE}= 10Ω	45			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 1mA, I_C= 0	4			V
I_{CBO}	Collector Cutoff Current	V_{CB}= 30V; 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	35		180	
P_O	Output Power	V_{CC}= 12V; P_{in}= 0.25W; f= 27MHz	6	7.5		W
η_C	Collector Efficiency		55	60		%

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