

**isc Silicon NPN Power Transistor**

**2SC2078**

**DESCRIPTION**

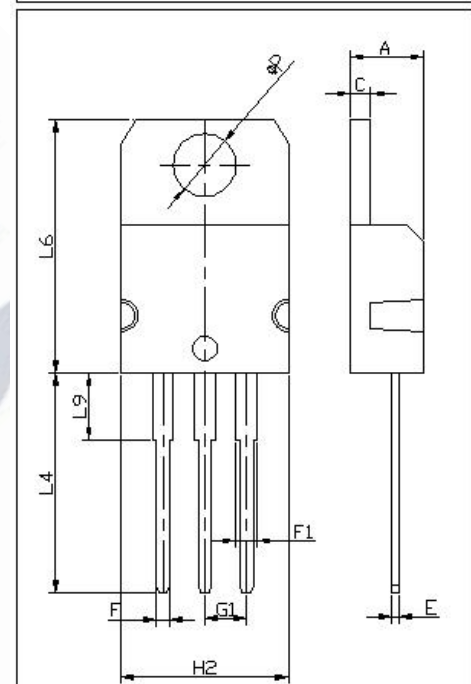
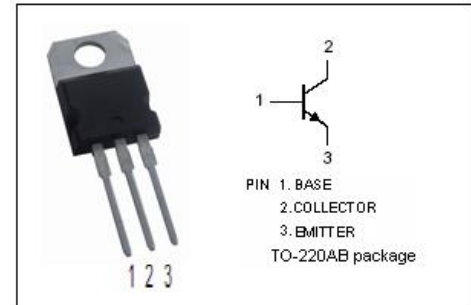
- Collector-Emitter Voltage-  
:V<sub>CER</sub>= 75V(Min) ;R<sub>BE</sub>=150 Ω
- Collector Current-  
:I<sub>C</sub>=3A

**APPLICATIONS**

- 27MHz RF Power Amplifier Applications

**ABSOLUTE MAXIMUM RATINGS(T<sub>a</sub>=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
V <sub>CBO</sub>	Collector-Base Voltage	80	V
V <sub>CER</sub>	Collector-Emitter Voltage R <sub>BE</sub> =150 Ω	75	V
V <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current-Continuous	3	A
I <sub>CM</sub>	Collector Current-Peak	5	A
P <sub>C</sub>	Collector Power Dissipation @ T <sub>a</sub> =25°C	1.2	W
	Collector Power Dissipation @ T <sub>c</sub> =50°C	10	
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature Range	-55~150	°C



DIM	mm	
	MIN	MAX
H2	10.1	10.5
L6	15.2	15.6
A	4.40	4.60
C	1.20	1.40
F	0.70	0.90
E	0.40	0.60
F1	1.17	1.37
L9	3.70	4.20
L4	13.1	13.7
G1	2.34	2.74
φ P	3.70	3.90

**isc Silicon NPN Power Transistor****2SC2078****ELECTRICAL CHARACTERISTICS** $T_c=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=0.1\text{mA}; I_B=0$	80			V
$V_{(BR)CER}$	Collector-Emitter Breakdown Voltage	$I_C=1\text{mA}; R_{BE}=150\ \Omega$	75			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E=0.1\text{mA}; I_C=0$	5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=1\text{A}; I_B=0.1\text{A}$			0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=1\text{A}; I_B=0.1\text{A}$			1.2	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=40\text{V}; I_E=0$			10	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=4\text{V}; I_C=0$			10	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$I_C=500\text{mA}; V_{CE}=5\text{V}$	25		200	
$C_{OB}$	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1\text{MHz}$		45	60	pF
$f_T$	Current-Gain—Bandwidth Product	$I_C=500\text{mA}; V_{CE}=10\text{V}$	100			MHz

◆  **$h_{FE}$  Classifications**

B	C	D	E
25-50	40-80	60-120	100-200