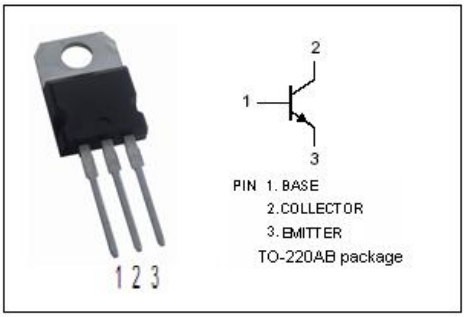
isc Silicon NPN Power Transistor — 2SC2078

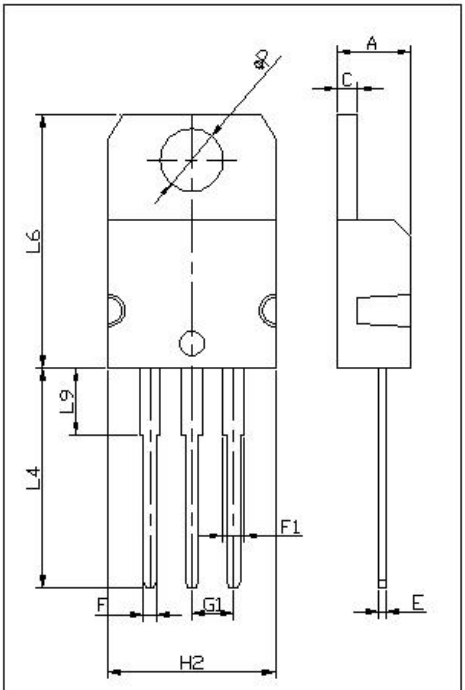


DESCRIPTION

- Collector-Emitter Voltage-
  :V_{CER}= 75V(Min) ;R_{BE}=150 Ω
- Collector Current-
  :I_C=3A

APPLICATIONS

- 27MHz RF Power Amplifier Applications



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
ΦP	3.70	3.90

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CER}	Collector-Emitter Voltage R_{BE}=150 Ω	75	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	3	A
I_{CM}	Collector Current-Peak	5	A
P_C	Collector Power Dissipation @ T_a=25℃	1.2	W
	Collector Power Dissipation @ T_C=50℃	10	
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-55~150	℃

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

◆ **h_{FE} Classifications**

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