

isc Silicon NPN Power Transistor

2SC1418

DESCRIPTION

- Low Collector Saturation Voltage
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

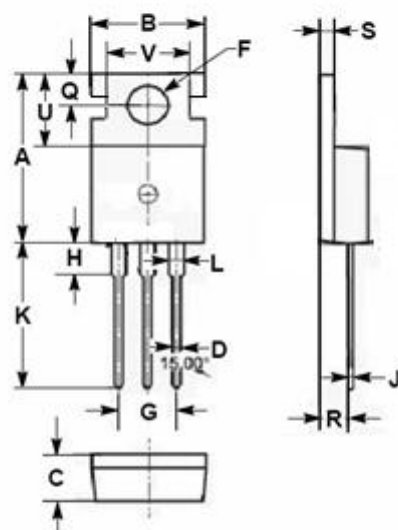
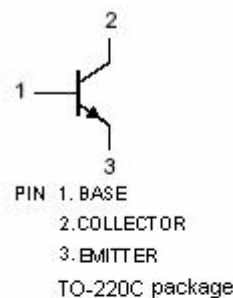
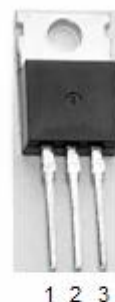
- Power amplifier applications
- Car radio, car stereo output stage amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	2	A
P_C	Total Power Dissipation @ $T_C=25^{\circ}\text{C}$	20	W
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	6.25	$^{\circ}\text{C}/\text{W}$



DIM	mm	
	MIN	MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

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ELECTRICAL CHARACTERISTICS

 $T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}$; $I_B = 0$	50			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 1\text{mA}$; $I_E = 0$	50			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 1\text{mA}$; $I_C = 0$	5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 1\text{A}$; $I_B = 0.1\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 1.0\text{A}$; $I_B = 0.1\text{A}$			1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 50\text{V}$; $I_E = 0$			1.0	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 5\text{V}$; $I_C = 0$			1.0	μA
h_{FE}	DC Current Gain	$I_C = 1\text{A}$; $V_{CE} = 4\text{V}$	35		320	
f_T	Current-Gain—Bandwidth Product	$I_C = 0.5\text{A}$; $V_{CE} = 10\text{V}$; $f_{test} = 1\text{MHz}$		5		MHz

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