

isc Silicon NPN Power Transistor

2SC1398

DESCRIPTION

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

APPLICATIONS

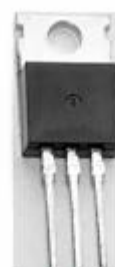
- Power amplifier applications
- Car radio, car stereo output stage amplifier applications.

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

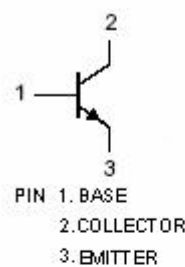
SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	70	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	3	A
P_C	Total Power Dissipation @ $T_C=25^{\circ}\text{C}$	15	W
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^{\circ}\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	8.33	$^{\circ}\text{C/W}$



1 2 3

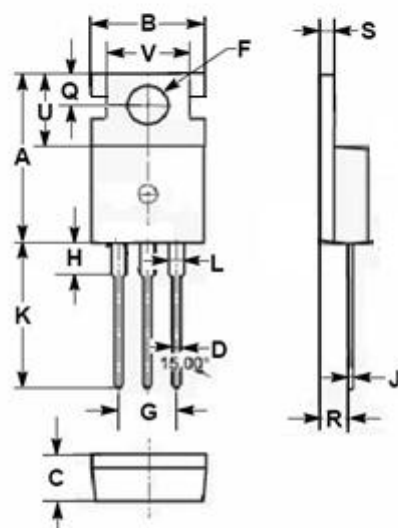


PIN 1. BASE

2. COLLECTOR

3. EMITTER

TO-220C package



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

isc Silicon NPN Power Transistor**2SC1398****ELECTRICAL CHARACTERISTICS****T_C=25°C unless otherwise specified**

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 10mA ; I _B = 0	50			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 1mA ; I _E = 0	70			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 1mA ; I _C = 0	5			V
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 1A; I _B = 0.1A			1.0	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 2.0A ; I _B = 0.2A			1.5	V
I _{CBO}	Collector Cutoff Current	V _{CB} = 70V ; I _E = 0			1.0	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 5V; I _C = 0			1.0	μ A
h _{FE-1}	DC Current Gain	I _C = 0.1A ; V _{CE} = 5V	30			
h _{FE-2}	DC Current Gain	I _C = 1A ; V _{CE} = 5V	50		220	
f _T	Current-Gain—Bandwidth Product	I _C = 0.5A; V _{CE} = 5V; f _{test} = 1MHz		120		MHz

◆ **h_{FE-2} Classifications**

P	Q	R
50-100	80-160	120-220

NOTICE:

ISC reserves the rights to make changes of the content herein the datasheet at any time without notification. The information contained herein is presented only as a guide for the applications of our products.

ISC products are intended for usage in general electronic equipment. The products are not designed for use in equipment which require specialized quality and/or reliability, or in equipment which could have applications in hazardous environments, aerospace industry, or medical field. Please contact us if you intend our products to be used in these special applications.

ISC makes no warranty or guarantee regarding the suitability of its products for any particular purpose, nor does ISC assume any liability arising from the application or use of any products, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages.