

Silicon NPN Power Transistor

2SC3148

DESCRIPTION

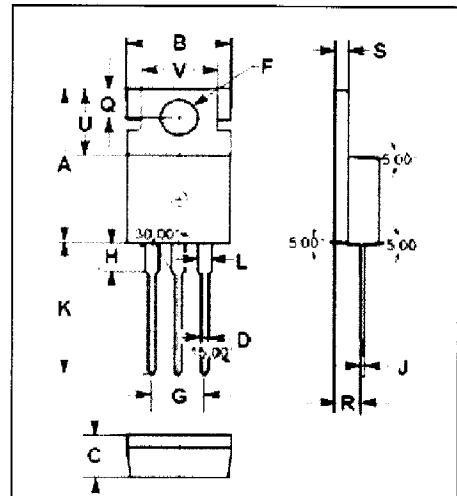
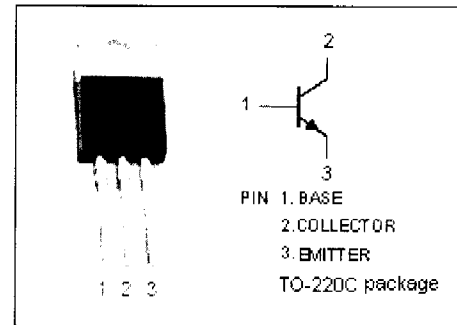
- High Collector-Emitter Breakdown Voltage-
 $V_{(BR)CEO} = 800V(\text{Min})$
- Fast Switching Speed
- Wide Area of Safe Operation

APPLICATIONS

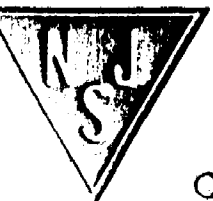
- Switching regulator and high voltage switching applications
- High speed DC-DC converter applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	900	V
V_{CEO}	Collector-Emitter Voltage	800	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current-Continuous	3	A
I_{CM}	Collector Current-Peak	5	A
I_B	Base Current-Continuous	1	A
P_C	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	1.5	W
	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	40	
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$



DIM	mm	
	MIN	MAX
A	15.70	15.90
B	9.90	10.10
C	4.20	4.40
D	0.70	0.90
F	3.40	3.60
G	4.98	5.18
H	2.70	2.90
J	0.44	0.46
K	13.20	13.40
L	1.10	1.30
Q	2.70	2.90
R	2.50	2.70
S	1.29	1.31
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	$I_C=10\text{mA}; I_B=0$	800			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C=1\text{mA}; I_E=0$	900			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=0.8\text{A}; I_B=0.16\text{A}$			0.6	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=0.8\text{A}; I_B=0.16\text{A}$			1.2	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=800\text{V}; I_E=0$			100	μA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=7\text{V}; I_C=0$			1.0	mA
h_{FE}	DC Current Gain	$I_C=0.8\text{A}; V_{CE}=5\text{V}$	10			

Switching times

t_r	Rise Time	$I_{B1}=80\text{mA}; I_{B2}=-0.2\text{A};$ $R_L=50\Omega; V_{CC}\approx 400\text{V}$			1.0	μs
t_{stg}	Storage Time				4.0	μs
t_f	Fall Time				1.0	μs