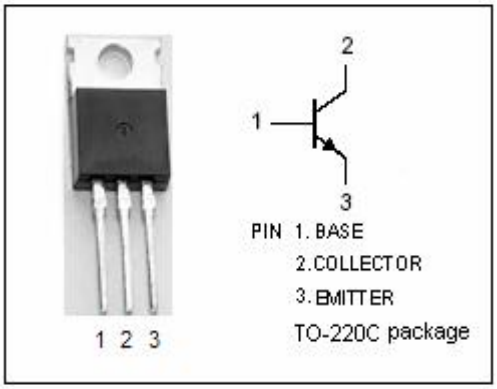
isc Silicon NPN Power Transistor — BD951



DESCRIPTION

- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 80V(Min)
- DC Current Gain-
  : h_{FE}= 40(Min)@ I_C= 500mA
- Complement to Type BD952
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

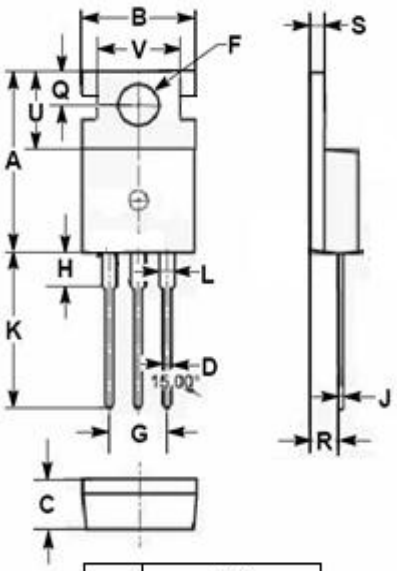
- Designed for power amplifier and switching applications

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	80	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	5	A
I_{CM}	Collector Current-Peak	8	A
P_C	Collector Power Dissipation @ T_C=25℃	40	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	3.12	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	70	℃/W



DIM	mm MIN	mm 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℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 1mA ; I_B= 0	80			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C= 1mA ; I_E= 0	80			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= 2A; I_B= 0.2A			1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 2A; V_{CE}= 4V			1.4	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 80V; I_E= 0			50	μA
		V_{CB}= 40V; I_E= 0,T_J=150℃			1.0	mA
I_{CEO}	Collector Cutoff Current	V_{CE}= 40V; I_B= 0			0.1	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0			0.2	mA
h_{FE-1}	DC Current Gain	I_C= 500mA ; V_{CE}= 4V	40			
h_{FE-2}	DC Current Gain	I_C= 2A ; V_{CE}= 4V	20			
f_T	Current-Gain—Bandwidth Product	I_C= 500mA ; V_{CE}= 4V	3			MHz
Switching Times						
t_{on}	Turn-On Time	I_C= 1.0A; I_{B1}= -I_{B2}= 0.1A; V_{CC}= 20V; R_L= 20Ω		0.3		μs
t_{off}	Turn-Off Time			1.5		μs

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