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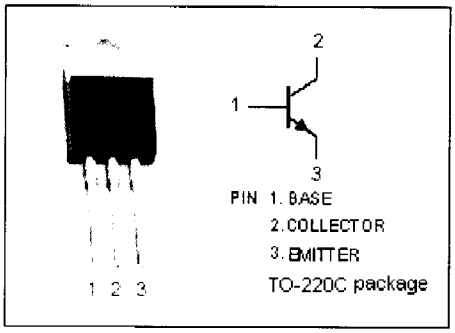
Silicon NPN Power Transistor — BD533

DESCRIPTION

- DC Current Gain -
  : h_{FE} = 40@ I_C= 0.5A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 45V(Min)
- Complement to Type BD534

APPLICATIONS

- Designed for use in medium power linear and switching applications.

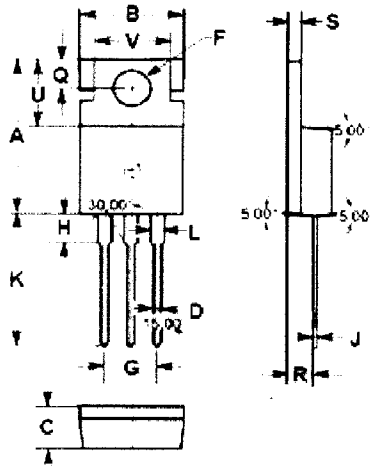


ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	45	V
V_{CES}	Collector-Emitter Voltage	45	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	8	A
I_E	Emitter Current- Continuous	8	A
I_B	Base Current	1	A
P_C	Collector Power Dissipation @ T_C=25℃	50	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	2.5	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance, Junction to Ambient	70	℃/W



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

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 100mA; I_B= 0	45		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 2A; I_B= 0.2A		0.8	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 6A; I_B= 0.6A	0.8		V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 2A ; V_{CE}= 2V		1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 45V; I_E= 0		0.1	mA
I_{CES}	Collector Cutoff Current	V_{CE}= 45V; V_{BE}= 0		0.1	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0		1.0	mA
h_{FE-1}	DC Current Gain	I_C= 10mA ; V_{CE}= 5V	20		
h_{FE-2}	DC Current Gain	I_C= 0.5A ; V_{CE}= 2V	40		
h_{FE-3}	DC Current Gain	I_C= 2A ; V_{CE}= 2V	25		
f_T	Current-Gain—Bandwidth Product	I_C= 0.5A ; V_{CE}= 1V	3.0		MHz