

Silicon NPN Power Transistor

BD537

DESCRIPTION

- DC Current Gain -
 : $h_{FE} = 40 @ I_C = 0.5A$
- Collector-Emitter Sustaining Voltage -
 : $V_{CE0(SUS)} = 80V(\text{Min})$
- Complement to Type BD538

APPLICATIONS

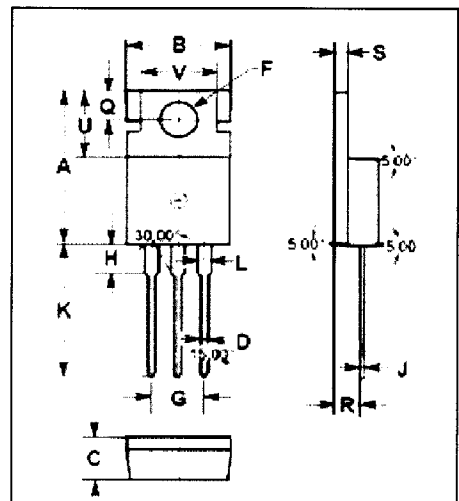
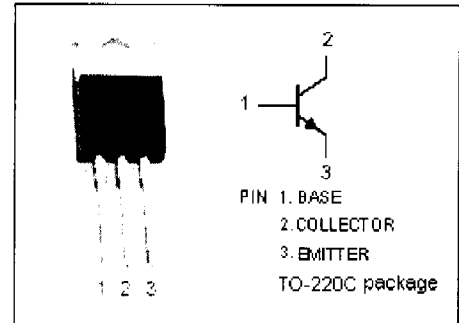
- Designed for use in medium power linear and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	80	V
V_{CES}	Collector-Emitter Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	80	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 @ $T_C = 25^\circ C$	50	W
T_J	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-65~150	$^\circ C$

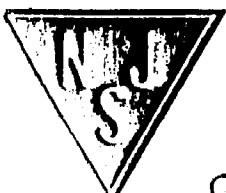
THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	2.5	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	70	$^\circ C/W$



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

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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=100\text{mA}; I_B=0$	80		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.2\text{A}$		0.8	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C=6\text{A}; I_B=0.6\text{A}$	0.8		V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C=2\text{A}; V_{CE}=2\text{V}$		1.5	V
I_{CBO}	Collector Cutoff Current	$V_{CB}=80\text{V}; I_E=0$		0.1	mA
I_{CES}	Collector Cutoff Current	$V_{CE}=80\text{V}; V_{BE}=0$		0.1	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB}=5\text{V}; I_C=0$		1.0	mA
h_{FE-1}	DC Current Gain	$I_C=10\text{mA}; V_{CE}=5\text{V}$	15		
h_{FE-2}	DC Current Gain	$I_C=0.5\text{A}; V_{CE}=2\text{V}$	40		
h_{FE-3}	DC Current Gain	$I_C=2\text{A}; V_{CE}=2\text{V}$	15		
f_T	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}; V_{CE}=1\text{V}$	3.0		MHz