

**Silicon PNP Power Transistor**

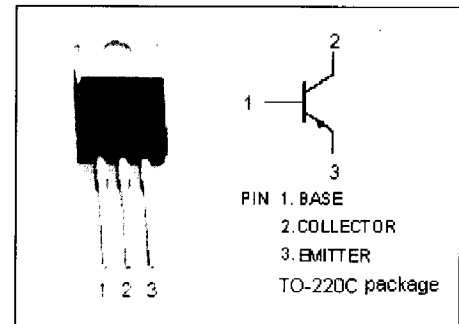
**BD952**

**DESCRIPTION**

- Collector-Emitter Breakdown Voltage-  
 :  $V_{(BR)CEO} = -80V(\text{Min})$
- DC Current Gain-  
 :  $h_{FE} = 40(\text{Min}) @ I_C = -500\text{mA}$
- Complement to Type BD951

**APPLICATIONS**

- Designed for power amplifier and switching applications

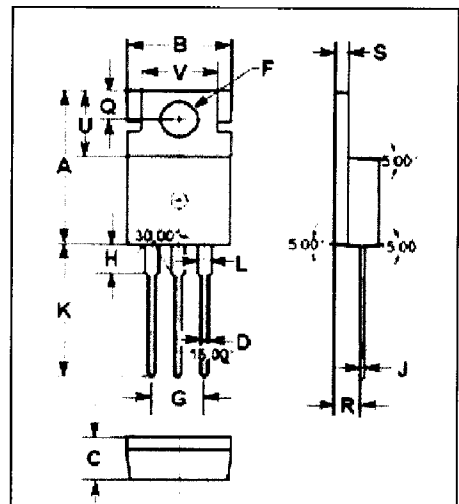


**ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )**

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 @ $T_c = 25^\circ\text{C}$	40	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$

**THERMAL CHARACTERISTICS**

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



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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# BD952

## 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	$I_C = -1\text{mA}; I_B = 0$	-80			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = -1\text{mA}; I_E = 0$	-80			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = -1\text{mA}; I_C = 0$	-5			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -2\text{A}; I_B = -0.2\text{A}$			-1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -2\text{A}; V_{CE} = -4\text{V}$			-1.4	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = -80\text{V}; I_E = 0$			-50	$\mu\text{A}$
		$V_{CB} = -40\text{V}; I_E = 0, T_J = 150^\circ\text{C}$			-1.0	mA
$I_{CEO}$	Collector Cutoff Current	$V_{CE} = -40\text{V}; I_B = 0$			-0.1	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$			-0.2	mA
$h_{FE-1}$	DC Current Gain	$I_C = -500\text{mA}; V_{CE} = -4\text{V}$	40			
$h_{FE-2}$	DC Current Gain	$I_C = -2\text{A}; V_{CE} = -4\text{V}$	20			
$f_T$	Current-Gain—Bandwidth Product	$I_C = -500\text{mA}; V_{CE} = -4\text{V}$	3			MHz

### Switching Times

$t_{on}$	Turn-On Time	$I_C = -1.0\text{A}; I_{B1} = -I_{B2} = -0.1\text{A}; V_{CC} = -20\text{V}; R_L = 20\ \Omega$		0.1		$\mu\text{s}$
$t_{off}$	Turn-Off Time			0.4		$\mu\text{s}$