

Silicon PNP Power Transistor

BD934/936/938/940/942

DESCRIPTION

- DC Current Gain-  
:  $h_{FE} = 40(\text{Min}) @ I_C = -150\text{mA}$
- Complement to Type BD933/935/937/939/941

APPLICATIONS

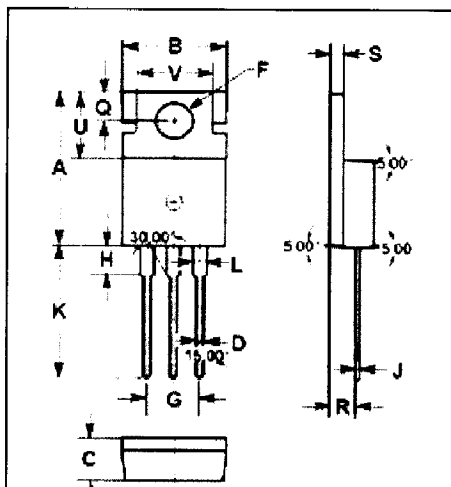
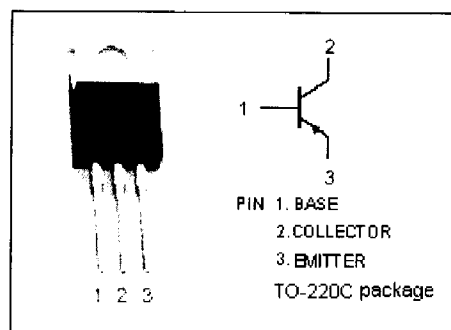
- Designed for use in output stages of audio and television amplifier circuits where high peak powers can occur.

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

SYMBOL	PARAMETER	VALUE	UNIT	
$V_{CBO}$	Collector-Base Voltage	BD934	-45	V
		BD936	-60	
		BD938	-100	
		BD940	-120	
		BD942	-140	
$V_{CEO}$	Collector-Emitter Voltage	BD934	-45	V
		BD936	-60	
		BD938	-80	
		BD940	-100	
		BD942	-120	
$V_{EBO}$	Emitter-Base Voltage	-5	V	
$I_C$	Collector Current-Continuous	-3	A	
$I_{CM}$	Collector Current-Peak	-7	A	
$I_B$	Base Current-Continuous	-0.5	A	
$P_C$	Collector Power Dissipation @ $T_C = 25^\circ\text{C}$	30	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	4.17	$^\circ\text{C/W}$
$R_{th\ j-a}$	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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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = -100\text{mA}; I_B = 0$	BD934	-45			V
			BD936	-60			
			BD938	-80			
			BD940	-100			
			BD942	-120			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -1\text{A}; I_B = -0.1\text{A}$			-0.6	V	
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -1\text{A}; V_{CE} = -2\text{V}$			-1.3	V	
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = V_{CB0max}; I_E = 0$ $V_{CB} = V_{CB0max}; I_E = 0, T_J = 150^\circ\text{C}$			-0.05 -1	mA	
$I_{CEO}$	Collector Cutoff Current	$V_{CE} = V_{CE0max}; I_B = 0$			-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	$I_C = -150\text{mA}; V_{CE} = -2\text{V}$	40		250		
$h_{FE-2}$	DC Current Gain	$I_C = -1\text{A}; V_{CE} = -2\text{V}$	25				
$f_T$	Current-Gain—Bandwidth Product	$I_C = -250\text{mA}; V_{CE} = -10\text{V}$	3			MHz	

### Switching Times

$t_{on}$	Turn-On Time	$I_C = -1.0\text{A}; I_{B1} = -I_{B2} = -0.1\text{A}$		0.2	0.6	$\mu\text{s}$
$t_{off}$	Turn-Off Time			0.7	2.4	$\mu\text{s}$