

**Silicon PNP Power Transistor BD934F/936F/938F/940F/942F**

**DESCRIPTION**

- DC Current Gain-  
 :  $h_{FE} = 40(\text{Min}) @ I_C = -150\text{mA}$
- Complement to Type BD933F/935F/937F/939F/941F

**APPLICATIONS**

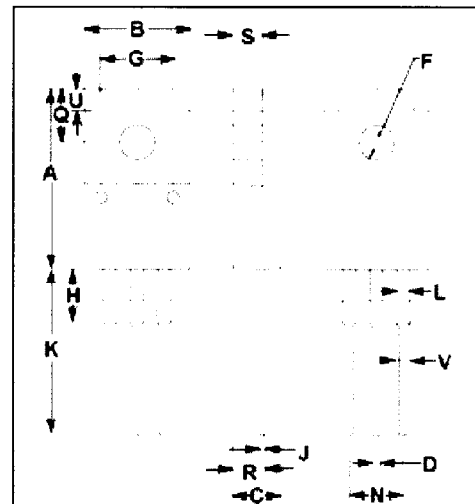
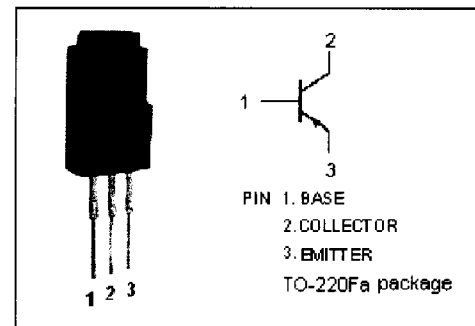
- Designed for use in output stages of audio and television amplifier circuits where high peak powers can occur.

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

SYMBOL	PARAMETER	VALUE	UNIT	
$V_{CBO}$	Collector-Base Voltage	BD934F	-45	V
		BD936F	-60	
		BD938F	-100	
		BD940F	-120	
		BD942F	-140	
$V_{CEO}$	Collector-Emitter Voltage	BD934F	-45	V
		BD936F	-60	
		BD938F	-80	
		BD940F	-100	
		BD942F	-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 @ $T_C = 25^\circ\text{C}$	19	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	55	$^\circ\text{C/W}$



DIM	mm	
	MIN	MAX
A	16.85	17.15
B	9.90	10.10
C	4.35	4.65
D	0.75	0.80
F	3.20	3.40
G	6.90	7.10
H	5.15	5.45
J	0.45	0.75
K	13.35	13.65
L	1.10	1.30
N	4.98	5.18
Q	4.85	5.15
R	2.95	3.25
S	2.70	2.90
U	1.75	2.05
V	1.30	1.50



**Silicon PNP Power Transistor**

**BD934F/936F/938F/940F/942F**

**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	$I_C=100\text{mA}; I_B=0$	BD934F	45			V
			BD936F	60			
			BD938F	80			
			BD940F	100			
			BD942F	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	$V_{CB}=V_{CB0max}; I_E=0$ $V_{CB}=V_{CB0max}; I_E=0, T_J=150^\circ\text{C}$			-0.1 -3.0	mA	
$I_{CEO}$	Collector Cutoff Current	$V_{CE}=V_{CE0max}; I_B=0$			-0.5	mA	
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=-5\text{V}; I_C=0$			-1.0	mA	
$h_{FE-1}$	DC Current Gain	$I_C=-150\text{mA}; V_{CE}=-2\text{V}$	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	$\mu\text{s}$