

INCHANGE Semiconductor

isc Product Specification

isc 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

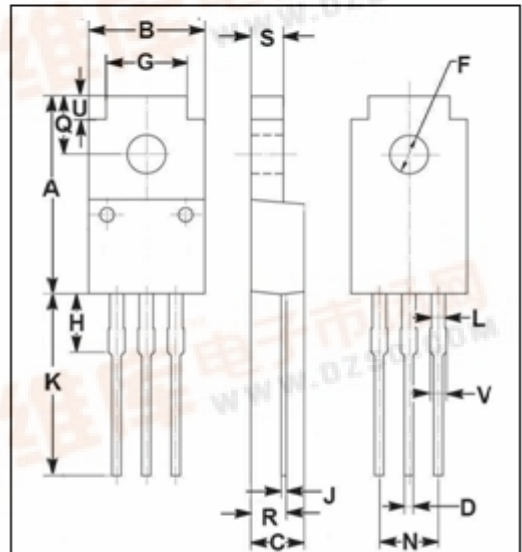
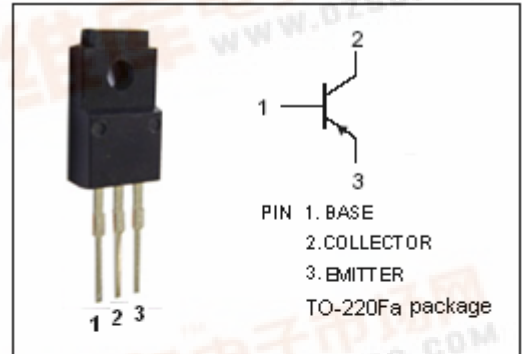
- Designed for use in output stages of audio and television amplifier circuits where high peak powers can occur.

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	$^\circ\text{C}/\text{W}$
$R_{th\ j-a}$	Thermal Resistance, Junction to Ambient	55	$^\circ\text{C}/\text{W}$



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



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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	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	μs
t_{off}	Turn-Off Time			0.7	2.4	μs