

**isc 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**

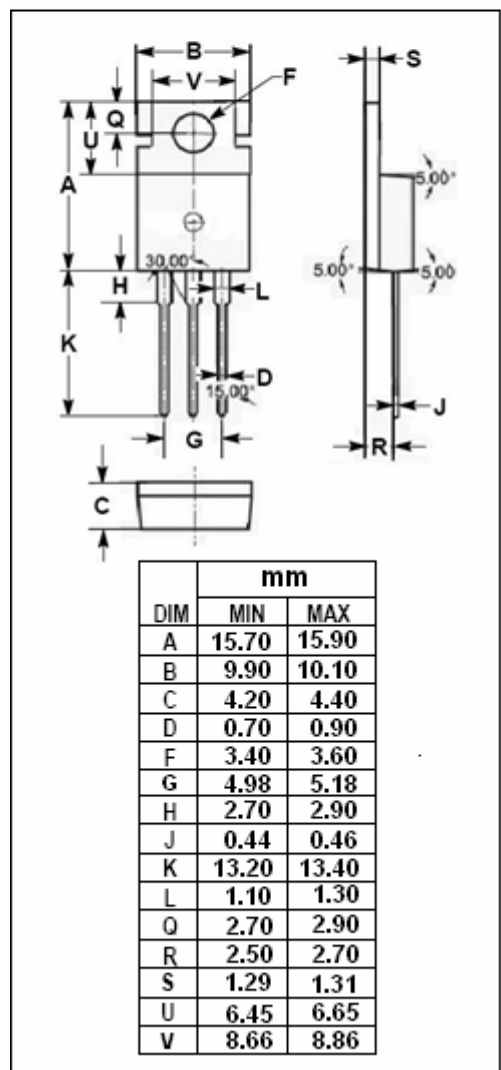
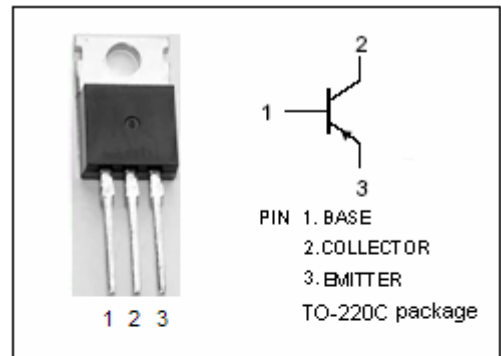
- Designed for use in output stages of audio and television amplifier circuits where high peak powers can occur.

**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	$^\circ\text{C/W}$



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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BD934	-45			V
		BD936	-60			
		BD938	-80			
		BD940	-100			
		BD942	-120			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -1A; I_B = -0.1A$			-0.6	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -1A; V_{CE} = -2V$			-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	$V_{EB} = -5V; I_C = 0$			-0.2	mA
$h_{FE-1}$	DC Current Gain	$I_C = -150mA; V_{CE} = -2V$	40		250	
$h_{FE-2}$	DC Current Gain	$I_C = -1A; V_{CE} = -2V$	25			
$f_T$	Current-Gain—Bandwidth Product	$I_C = -250mA; V_{CE} = -10V$	3			MHz

## Switching Times

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