

SPTECH Silicon PNP Power TransistorBD934/936/938/940/942

DESCRIPTION

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

APPLICATIONS

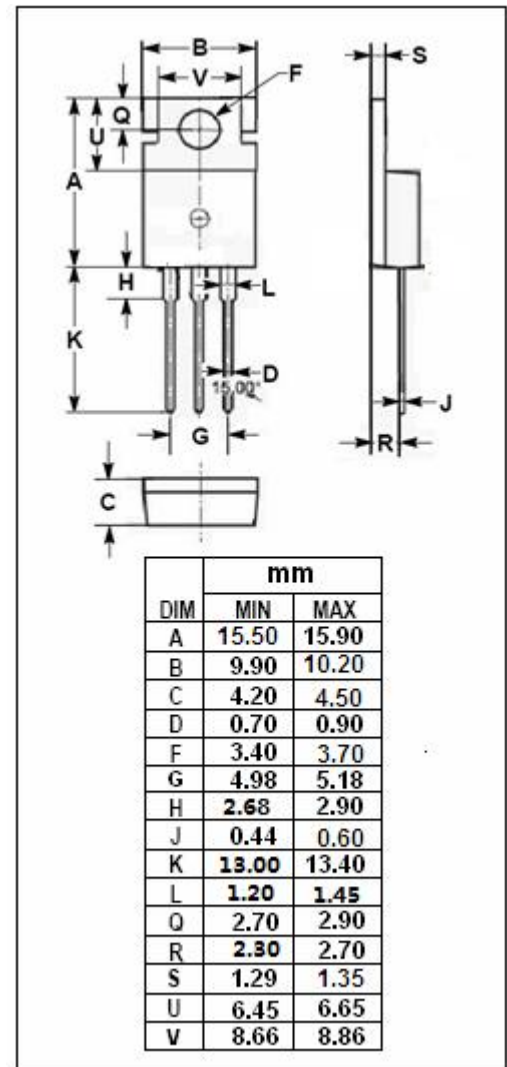
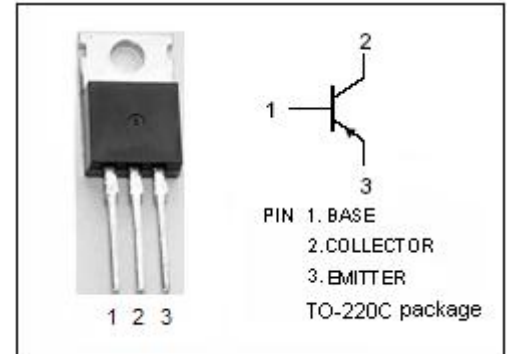
- Designed for use in output stages of audio and television amplifier circuits where high peak powers can occur.

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
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	BD934	$I_C = -30\text{mA}; I_B = 0$	-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	μs
t_{off}	Turn-Off Time			0.7	2.4	μs