

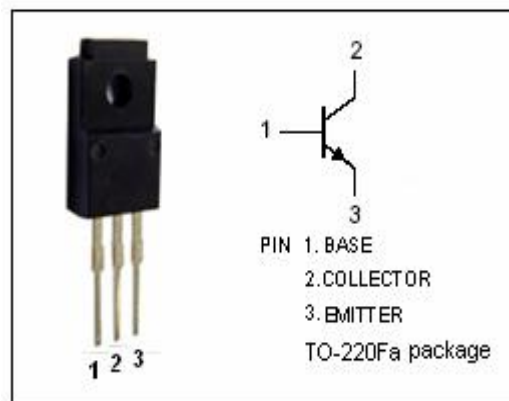
## isc Silicon NPN Power Transistor BD933F/935F/937F/939F/941F

### DESCRIPTION

- DC Current Gain-  
:  $h_{FE} = 40(\text{Min}) @ I_C = 150\text{mA}$
- Complement to Type BD934F/936F/938F/940F/942F
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

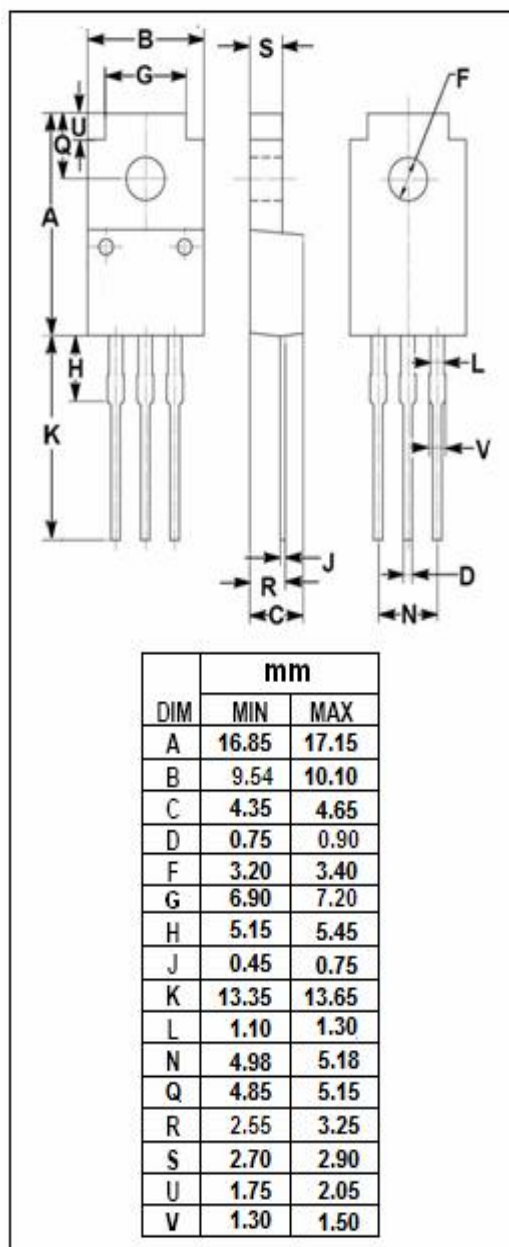
### APPLICATIONS

- 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	BD933F	45	V
		BD935F	60	
		BD937F	100	
		BD939F	120	
		BD941F	140	
$V_{CEO}$	Collector-Emitter Voltage	BD933F	45	V
		BD935F	60	
		BD937F	80	
		BD939F	100	
		BD941F	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	$^\circ\text{C/W}$

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## BD933F/935F/937F/939F/941F

## ELECTRICAL CHARACTERISTICS

T<sub>C</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>CEO(sus)</sub>	Collector-Emitter Sustaining Voltage	BD933F	45			V
		BD935F	60			
		BD937F	80			
		BD939F	100			
		BD941F	120			
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 1A; I <sub>B</sub> = 0.1A			0.6	V
V <sub>BE(on)</sub>	Base-Emitter On Voltage	I <sub>C</sub> = 1A; V <sub>CE</sub> = 2V			1.3	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = V <sub>CB0max</sub> ; I <sub>E</sub> = 0 V <sub>CB</sub> = V <sub>CB0max</sub> ; I <sub>E</sub> = 0, T <sub>J</sub> =150°C			0.1 3.0	mA
I <sub>CEO</sub>	Collector Cutoff Current	V <sub>CE</sub> = V <sub>CEOmax</sub> ; I <sub>B</sub> = 0			0.5	mA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 5V; I <sub>C</sub> = 0			1.0	mA
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = 150mA; V <sub>CE</sub> = 2V	40		250	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = 1A; V <sub>CE</sub> = 2V	25			

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