

isc Silicon NPN Power Transistor

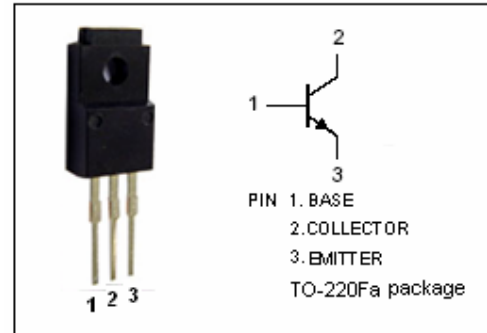
BD943F/945F/947F

DESCRIPTION

- DC Current Gain-  
:  $h_{FE} = 85(\text{Min}) @ I_C = 500\text{mA}$
- Complement to Type BD944F/946F/948F

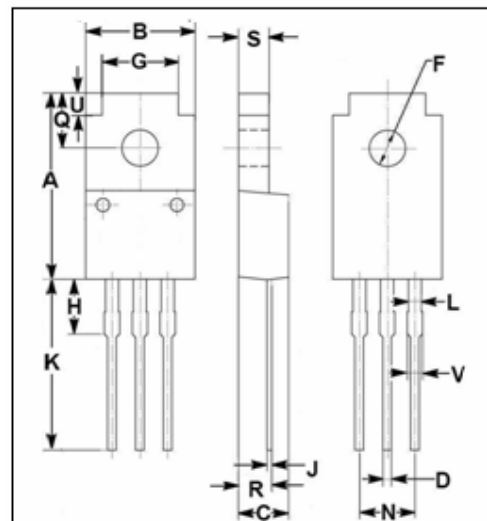
APPLICATIONS

- Designed for use in audio output stages and general purpose amplifier applications.



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

SYMBOL	PARAMETER	VALUE	UNIT	
$V_{CBO}$	Collector-Base Voltage	BD943F	22	V
		BD945F	32	
		BD947F	45	
$V_{CEO}$	Collector-Emitter Voltage	BD943F	22	V
		BD945F	32	
		BD947F	45	
$V_{EBO}$	Emitter-Base Voltage	5	V	
$I_C$	Collector Current-Continuous	5	A	
$I_{CM}$	Collector Current-Peak	8	A	
$I_B$	Base Current-Continuous	1	A	
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	22	W	
$T_J$	Junction Temperature	150	$^\circ\text{C}$	
$T_{stg}$	Storage Temperature Range	-65~150	$^\circ\text{C}$	



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

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	7.93	$^\circ\text{C}/\text{W}$

## isc Silicon NPN Power Transistor

## BD943F/945F/947F

## 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	BD943F	$I_C=100\text{mA}; I_B=0$	22			V
		BD945F		32			
		BD947F		45			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	BD943F/945F	$I_C=2\text{A}; I_B=0.2\text{A}$			0.5	V
		BD947F	$I_C=3\text{A}; I_B=0.3\text{A}$			0.7	
$V_{BE(on)}$	Base-Emitter On Voltage	BD943F/945F	$I_C=2\text{A}; V_{CE}=1\text{V}$			1.1	V
		BD947F	$I_C=3\text{A}; V_{CE}=1\text{V}$			1.3	
$I_{CBO}$	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	BD943F	$V_{CE}=15\text{V}; I_B=0$			0.1	mA
		BD945F	$V_{CE}=20\text{V}; I_B=0$				
		BD947F	$V_{CE}=25\text{V}; I_B=0$				
$I_{EBO}$	Emitter Cutoff Current		$V_{EB}=5\text{V}; I_C=0$			0.2	mA
$h_{FE-1}$	DC Current Gain		$I_C=10\text{mA}; V_{CE}=5\text{V}$	25			
$h_{FE-2}$	DC Current Gain		$I_C=500\text{mA}; V_{CE}=1\text{V}$	85		475	
$h_{FE-3}$	DC Current Gain	BD943F/945F	$I_C=2\text{A}; V_{CE}=1\text{V}$	50			
		BD947F		40			
$h_{FE-4}$	DC Current Gain-- <b>Only For BD947F</b>		$I_C=3\text{A}; V_{CE}=1\text{V}$	30			
$f_T$	Current-Gain—Bandwidth Product		$I_C=250\text{mA}; V_{CE}=1\text{V}$	3			MHz