

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
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

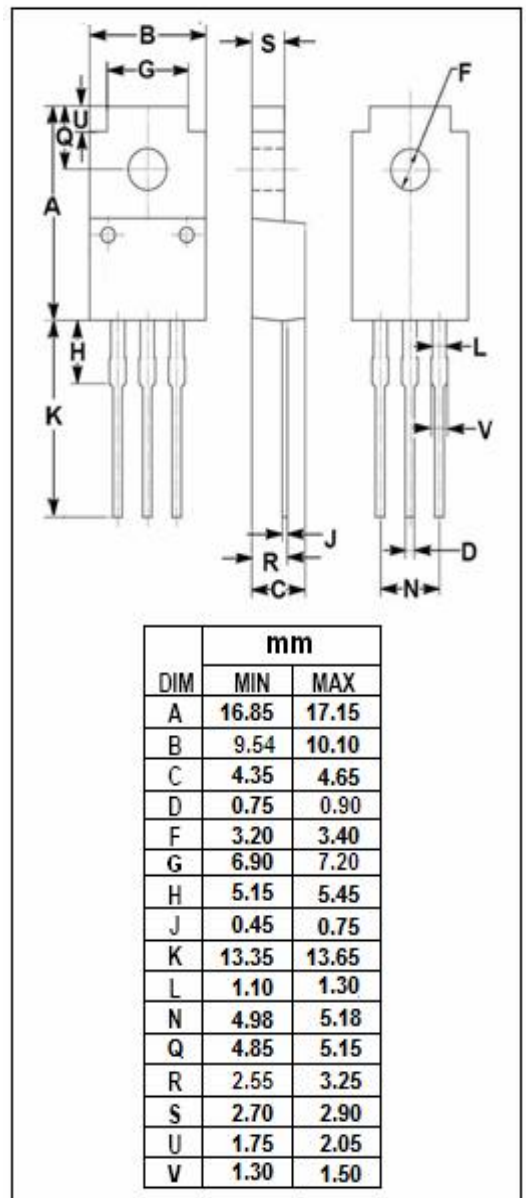
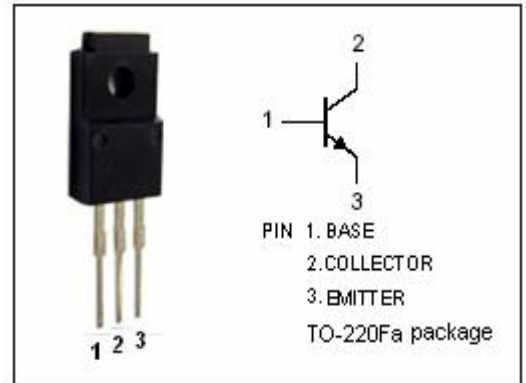
- Designed for use in audio output stages and general purpose amplifier applications.

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	$^\circ\text{C}$

THERMAL CHARACTERISTICS

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



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ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEO(SUS)}	Collector-Emitter Sustaining Voltage	BD943F	I _C = 30mA ; I _B = 0	22			V
		BD945F		32			
		BD947F		45			
V _{CE(sat)}	Collector-Emitter Saturation Voltage	BD943F/945F	I _C = 2A; I _B = 0.2A			0.5	V
		BD947F	I _C = 3A; I _B = 0.3A			0.7	
V _{BE(on)}	Base-Emitter On Voltage	BD943F/945F	I _C = 2A; V _{CE} = 1V			1.1	V
		BD947F	I _C = 3A; V _{CE} = 1V			1.3	
I _{CBO}	Collector Cutoff Current		V _{CB} = V _{CB0max} ; I _E = 0 V _{CB} = V _{CB0max} ; I _E = 0, T _J =150°C			0.05 1	mA
I _{CEO}	Collector Cutoff Current	BD943F	V _{CE} = 15V; I _B = 0			0.1	mA
		BD945F	V _{CE} = 20V; I _B = 0				
		BD947F	V _{CE} = 25V; I _B = 0				
I _{EBO}	Emitter Cutoff Current		V _{EB} = 5V; I _C = 0			0.2	mA
h _{FE-1}	DC Current Gain		I _C = 10mA ; V _{CE} = 5V	25			
h _{FE-2}	DC Current Gain		I _C = 500mA ; V _{CE} = 1V	85		475	
h _{FE-3}	DC Current Gain	BD943F/945F	I _C = 2A ; V _{CE} = 1V	50			
		BD947F		40			
h _{FE-4}	DC Current Gain—Only For BD947F		I _C = 3A ; V _{CE} = 1V	30			
f _T	Current-Gain—Bandwidth Product		I _C = 250mA ; V _{CE} = 1V	3			MHz

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