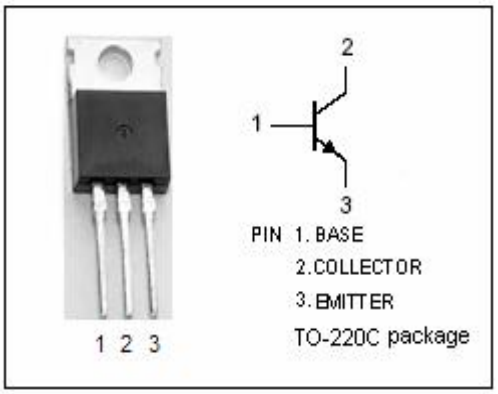
isc Silicon NPN Power Transistor — BD943/945/947

DESCRIPTION

- DC Current Gain-
  : h_{FE}= 85(Min)@ I_C= 500mA
- Complement to Type BD944/946/948
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

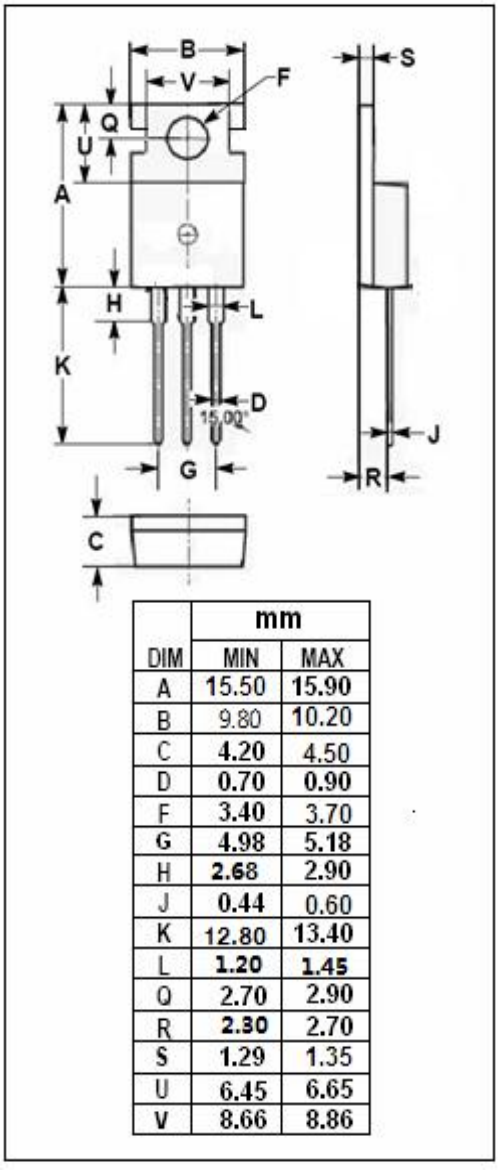


APPLICATIONS

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

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BD943	22	V
		BD945	32	
		BD947	45	
V_{CEO}	Collector-Emitter Voltage	BD943	22	V
		BD945	32	
		BD947	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℃		40	W
T_J	Junction Temperature		150	℃
T_{stg}	Storage Temperature Range		-65~150	℃



DIM	mm MIN	MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	3.12	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	70	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BD943	I_C= 30mA ; I_B= 0	22			V
		BD945		32			
		BD947		45			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	BD943/945	I_C= 2A; I_B= 0.2A			0.5	V
		BD947	I_C= 3A; I_B= 0.3A			0.7	
$V_{BE(on)}$	Base-Emitter On Voltage	BD943/945	I_C= 2A; V_{CE}= 1V			1.1	V
		BD947	I_C= 3A; V_{CE}= 1V			1.3	
I_{CBO}	Collector Cutoff Current		V_{CB}= V_{CBOmax}; I_E= 0 V_{CB}= V_{CBOmax}; I_E= 0,T_J=150℃			0.05 1.0	mA
I_{CEO}	Collector Cutoff Current	BD943	V_{CE}= 15V; I_B= 0			0.1	mA
		BD945	V_{CE}= 20V; I_B= 0				
		BD947	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	BD943/945	I_C= 2A ; V_{CE}= 1V	50			
		BD947		40			
h_{FE-4}	DC Current Gain--**Only For BD947**		I_C= 3A ; V_{CE}= 1V	30			