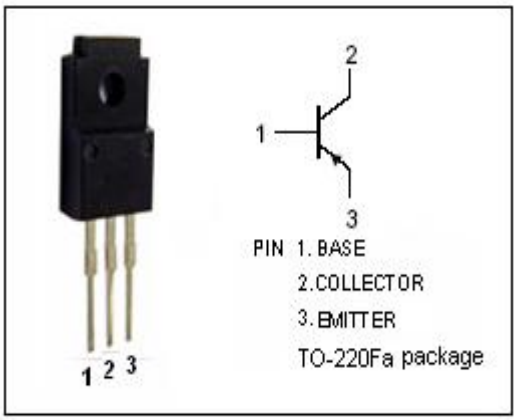
isc Silicon PNP Power Transistors — BDT30F/AF/BF/CF/DF



DESCRIPTION

- DC Current Gain -h_{FE} = 40(Min)@ I_C= -0.4A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = -40V(Min)- BDT30F; -60V(Min)- BDT30AF
  -80V(Min)- BDT30BF; -100V(Min)- BDT30CF
  -120V(Min)- BDT30DF
- Complement to Type BDT29F/AF/BF/CF/DF
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

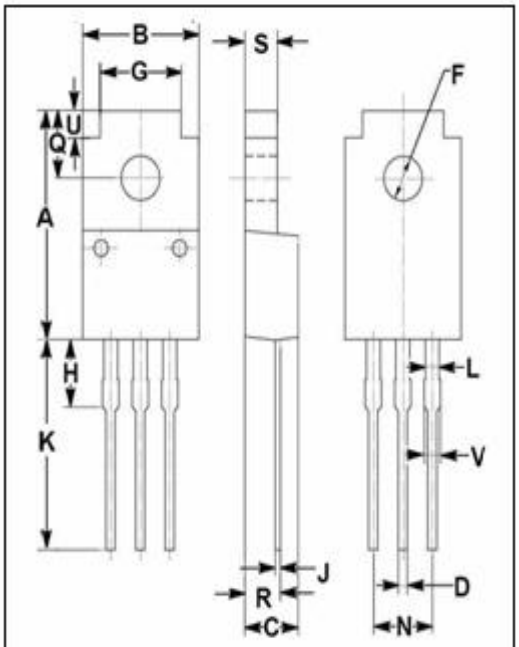
- Designed for use in audio output stages , general purpose amplifier and high speed switching applications

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BDT30F	-80	V
		BDT30AF	-100	
		BDT30BF	-120	
		BDT30CF	-140	
		BDT30DF	-160	
V_{CEO}	Collector-Emitter Voltage	BDT30F	-40	V
		BDT30AF	-60	
		BDT30BF	-80	
		BDT30CF	-100	
		BDT30DF	-120	
V_{EBO}	Emitter-Base Voltage		-5	V
I_C	Collector Current-Continuous		-1	A
I_{CM}	Collector Current-Peak		-3	A
I_B	Base Current		-0.4	A
P_C	Collector Power Dissipation T_C=25℃		19	W
T_j	Junction Temperature		150	℃
T_{stg}	Storage Ttemperature Range		-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	9.17	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	55	℃/W



DIM	mm MIN	MAX
A	16.85	17.15
B	9.54	10.10
C	4.35	4.65
D	0.75	0.90
F	3.20	3.40
G	6.90	7.20
H	3.80	4.20
J	0.45	0.75
K	13.35	13.80
L	1.10	1.30
N	4.98	5.18
Q	4.85	5.15
R	2.55	3.25
S	2.70	2.90
U	1.75	2.05
V	1.30	1.50

isc Silicon PNP Power Transistors BDT30F/AF/BF/CF/DF

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BDT30F	I_C= -30mA; I_B= 0	-40			V
		BDT30AF		-60			
		BDT30BF		-80			
		BDT30CF		-100			
		BDT30DF		-120			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		I_C= -1A; I_B= -0.125A			-0.7	V
$V_{BE(on)}$	Base-Emitter On Voltage		I_C= -1A ; V_{CE}= -4V			-1.3	V
I_{CES}	Collector Cutoff Current		V_{CE}= V_{CEOmax}; V_{BE}= 0			-0.2	mA
I_{CEO}	Collector Cutoff Current	BDT30F/AF	V_{CE}= -30V; I_B= 0			-0.1	mA
		BDT30BF/CF	V_{CE}= -60V; I_B= 0				
		BDT30DF	V_{CE}= -90V; 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= -0.2A ; V_{CE}= -4V	40			
h_{FE-2}	DC Current Gain		I_C= -1A ; V_{CE}= -4V	15		75	
f_T	Current-Gain—Bandwidth Product		I_C= -0.2A ; V_{CE}= -10V	3			MHz
Switching Times							
t_{on}	Turn-On Time		I_C= -1.0A; I_{B1}= -I_{B2}= -0.1A		0.3		μs
t_{off}	Turn-Off Time				1.0		μs

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