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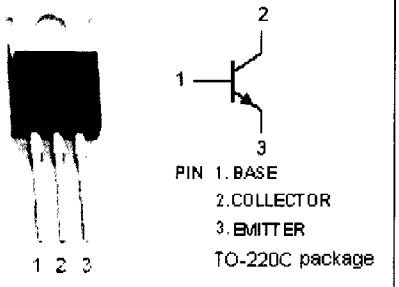
Silicon NPN Power Transistors — BDT29/A/B/C

DESCRIPTION

- DC Current Gain -h_{FE} = 40(Min)@ I_C= 0.4A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 40V(Min)- BDT29; 60V(Min)- BDT29A
  80V(Min)- BDT29B; 100V(Min)- BDT29C
- Complement to Type BDT30/A/B/C

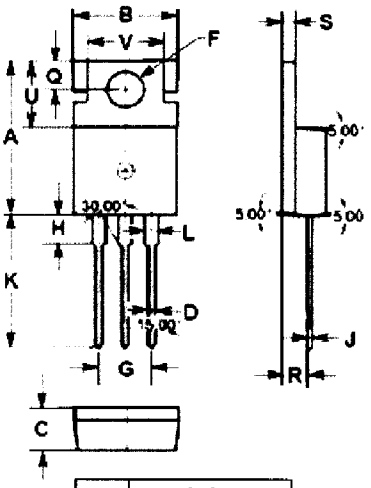
APPLICATIONS

- Designed for use in output stages of audio and television amplifier circuits where high peak powers can occur.



ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BDT29	80	V
		BDT29A	100	
		BDT29B	120	
		BDT29C	140	
V_{CEO}	Collector-Emitter Voltage	BDT29	40	V
		BDT29A	60	
		BDT29B	80	
		BDT29C	100	
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℃		30	W
T_j	Junction Temperature		150	℃
T_{stg}	Storage Ttemperature Range		-65~150	℃



DIM	mm MIN	MAX
A	15.70	15.90
B	9.90	10.10
C	4.20	4.40
D	0.70	0.90
F	3.40	3.60
G	4.98	5.18
H	2.70	2.90
J	0.44	0.46
K	13.20	13.40
L	1.10	1.30
Q	2.70	2.90
R	2.50	2.70
S	1.29	1.31
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	4.17	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	70	℃/W

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BDT29	I_C= 30mA; I_B= 0	40			V
		BDT29A		60			
		BDT29B		80			
		BDT29C		100			
$V_{CE(sat)}$	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	BDT29/A	V_{CE}= 30V; I_B= 0			0.1	mA
		BDT29B/C	V_{CE}= 60V; 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