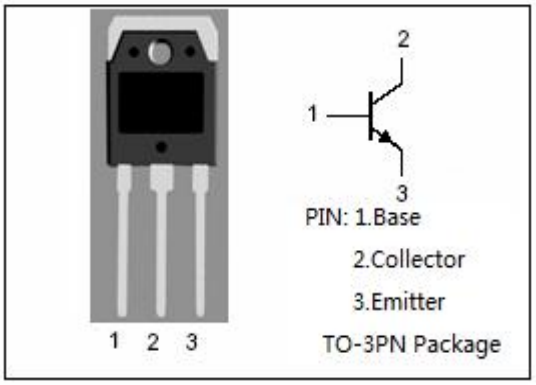
isc Silicon NPN Power Transistor — BDV91/93/95

DESCRIPTION

- Collector Current -I_C= 10A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 45V(Min)- BDV91; 60V(Min)- BDV93
  80V(Min)- BDV95
- Complement to Type BDV92/94/96
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

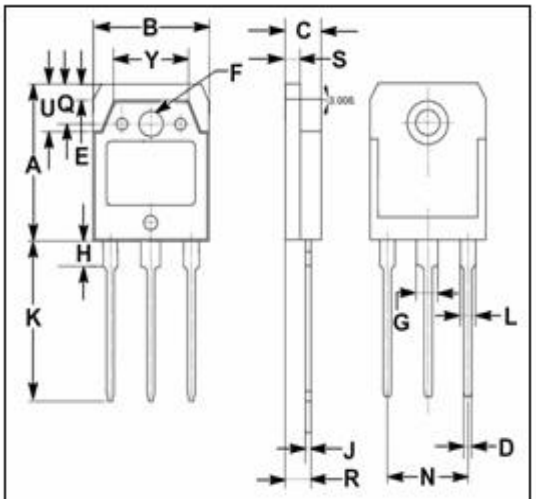
- Designed for use in audio output stages and general amplifier and switching applications

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CER}	Collector-Emitter Voltage	BDV91	60	V
		BDV93	80	
		BDV95	100	
V_{CEO}	Collector-Emitter Voltage	BDV91	60	V
		BDV93	80	
		BDV95	100	
V_{EBO}	Emitter-Base Voltage		7	V
I_C	Collector Current-Continuous		10	A
I_{CM}	Collector Current-Peak		20	A
I_B	Base Current		7	A
I_E	Emitter Current		14	A
P_C	Collector Power Dissipation @ T_C=25℃		100	W
T_J	Junction Temperature		150	℃
T_{stg}	Storage Temperature Range		-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance, Junction to Case	1.25	℃/W



DIM	mm MIN	mm MAX
A	19.60	20.30
B	15.50	15.70
C	4.70	4.90
D	0.90	1.10
E	1.90	2.10
F	3.40	3.60
G	2.90	3.20
H	3.20	3.40
J	0.595	0.605
K	19.80	20.70
L	1.90	2.20
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.100
U	5.90	6.20
Y	9.90	10.10

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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	BDV91	I_C= 30mA ;I_B=0	60			V
		BDV93		80			
		BDV95		100			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage		I_C= 4A; I_B= 0.4A			1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage		I_C= 10A; I_B= 3.3A			3.0	V
$V_{BE(sat)}$	Base -Emitter Saturation Voltage		I_C= 4A; I_B= 0.4A			1.6	V
$V_{BE(on)}$	Base-Emitter On Voltage		I_C= 4A ; V_{CE}= 4V			1.6	V
I_{CEO}	Collector Cutoff Current		V_{CE}= V_{CEOmax};I_B= 0			0.2	mA
I_{CBO}	Collector Cutoff Current		V_{CB}= V_{CBOmax};I_E= 0 V_{CB}= $^1/_2V_{CBOmax}$;I_E= 0; T_J= 150℃			0.1 1.0	mA
I_{EBO}	Emitter Cutoff Current		V_{EB}= 7V; I_C=0			0.1	mA
h_{FE-1}	DC Current Gain		I_C= 4A ; V_{CE}= 4V	20			
h_{FE-2}	DC Current Gain		I_C= 10A ; V_{CE}= 4V	5			
f_T	Current-Gain—Bandwidth Product		I_C= 0.5A ;V_{CE}= 10V	3.0			MHz
Switching times							
t_{on}	Turn-on Time		I_C= 4A; I_{B1}= -I_{B2}= 0.4A; V_{CC}= 30V		0.5		μs
t_{off}	Turn-off Time				2.0		μs
t_f	Fall Time				0.7		μs

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