

isc Silicon PNP Power Transistor

BDV92/94/96

DESCRIPTION

- Collector Current $-I_C = -10A$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = -45V(\text{Min})$ - BDV92; $-60V(\text{Min})$ - BDV94
 $-80V(\text{Min})$ - BDV96
- Complement to Type BDV91/93/95

APPLICATIONS

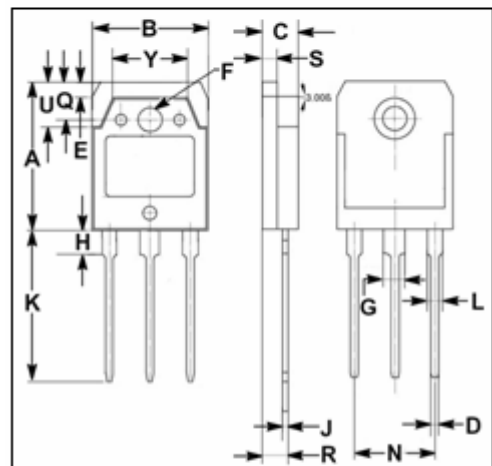
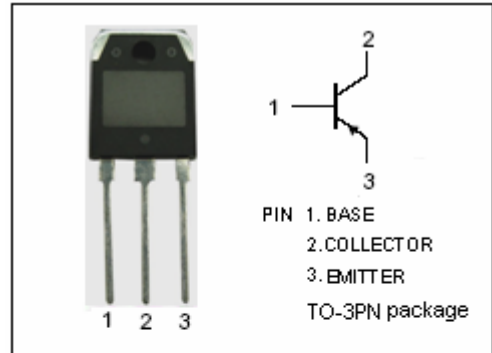
- Designed for use in audio output stages and general amplifier and switching applications

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT	
V_{CER}	Collector-Emitter Voltage	BDV92	-60	V
		BDV94	-80	
		BDV96	-100	
V_{CEO}	Collector-Emitter Voltage	BDV92	-60	V
		BDV94	-80	
		BDV96	-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 @ $T_C=25^\circ\text{C}$	100	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	1.25	$^\circ\text{C/W}$



DIM	mm	
	MIN	MAX
A	19.90	20.10
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	3.10
H	3.20	3.40
J	0.595	0.605
K	20.50	20.70
L	1.90	2.10
N	10.89	10.91
Q	4.90	5.10
R	3.35	3.45
S	1.995	2.005
U	5.90	6.10
Y	9.90	10.10

isc Silicon NPN Power Transistor

BDV91/93/95

ELECTRICAL CHARACTERISTICS

 $T_C=25^\circ\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT	
$V_{CE(SUS)}$	Collector-Emitter Sustaining Voltage	BDV92	$I_C = -100\text{mA}; I_B = 0$	-60			V
		BDV94		-80			
		BDV96		-100			
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = -4\text{A}; I_B = -0.4\text{A}$			-1.0	V	
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = -10\text{A}; I_B = -3.3\text{A}$			-3.0	V	
$V_{BE(sat)}$	Base -Emitter Saturation Voltage	$I_C = -4\text{A}; I_B = -0.4\text{A}$			-1.6	V	
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -4\text{A}; V_{CE} = -4\text{V}$			-1.6	V	
I_{CEO}	Collector Cutoff Current	$V_{CE} = V_{CE0max}; I_B = 0$			-0.2	mA	
I_{CBO}	Collector Cutoff Current	$V_{CB} = V_{CB0max}; I_E = 0$ $V_{CB} = 1/2 V_{CB0max}; I_E = 0; T_J = 150^\circ\text{C}$			-0.1 -1.0	mA	
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -7\text{V}; I_C = 0$			-0.1	mA	
h_{FE-1}	DC Current Gain	$I_C = -4\text{A}; V_{CE} = -4\text{V}$	20				
h_{FE-2}	DC Current Gain	$I_C = -10\text{A}; V_{CE} = -4\text{V}$	5				
f_T	Current-Gain—Bandwidth Product	$I_C = -0.5\text{A}; V_{CE} = -10\text{V}$	4			MHz	

Switching times

t_{on}	Turn-on Time	$I_C = -4\text{A}; I_{B1} = -I_{B2} = -0.4\text{A}; V_{CC} = -30\text{V}$		0.3		μs
t_{off}	Turn-off Time			0.7		μs
t_f	Fall Time			0.3		μs