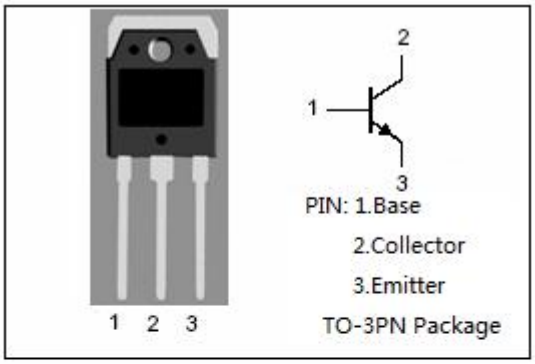
isc Silicon NPN Power Transistors — TIP51

DESCRIPTION

- DC Current Gain -h_{FE} = 30~150@ I_C= 0.3A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 250V(Min)
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

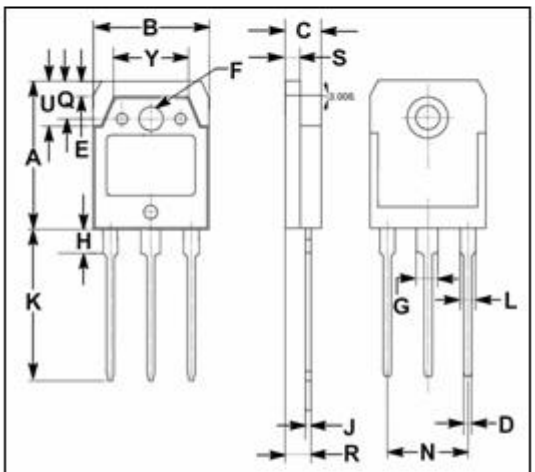


APPLICATIONS

- Designed for line operated audio output amplifier,and switching power supply drivers applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	350	V
V_{CEO}	Collector-Emitter Voltage	250	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	3.0	A
I_{CM}	Collector Current-Peak	5.0	A
I_B	Base Current	0.6	A
P_D	Collector Power Dissipation T_C=25℃	100	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃



DIM	mm MIN	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

THERMAL CHARACTERISTICS

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

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 30mA; I_B= 0	250		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 3A; I_B= 0.6A		1.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 3A; V_{CE}= 10V		1.5	V
I_{CBO}	Collector Cutoff Current	V_{CB}= 350V; I_E= 0		1.0	mA
I_{CEO}	Collector Cutoff Current	V_{CE}= 150V; I_B= 0		1.0	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0		1.0	mA
h_{FE-1}	DC Current Gain	I_C= 0.3A; V_{CE}= 10V	30	150	
h_{FE-2}	DC Current Gain	I_C= 3A; V_{CE}= 10V	10		
f_T	Current-Gain—Bandwidth Product	I_C= 0.2A; V_{CE}= 10V	2.5		MHz