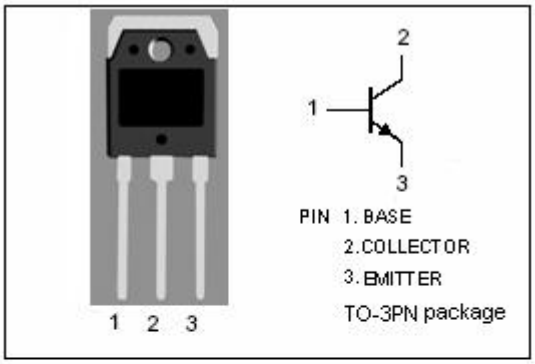
isc Silicon NPN Power Transistor — TIP33

DESCRIPTION

- DC Current Gain-
  : h_{FE}= 40(Min)@I_C = 1A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$= 40V(Min)
- Complement to Type TIP34
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

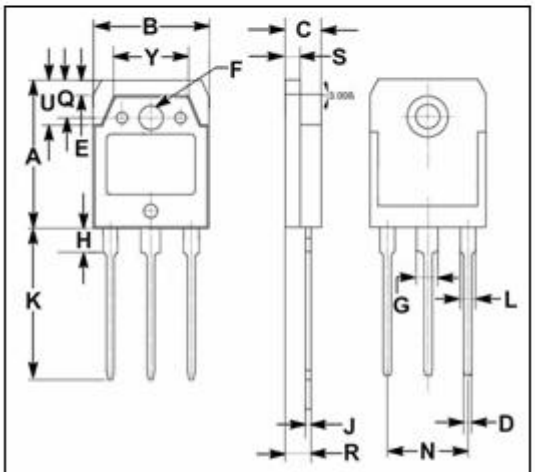
- Designed for use in general purpose power amplifier and switching applications.

ABSOLUTE MAXIMUM RATINGS (T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	10	A
I_{CM}	Collector Current-peak	15	A
I_B	Base Current	3	A
P_C	Collector Power Dissipation@ T_C=25℃	80	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.56	℃/W



DIM	mm MIN	MAX
A	19.60	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	3.20
H	3.20	3.40
J	0.595	0.605
K	20.00	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	6.10
Y	9.90	10.10

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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	40		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	I_C= 3A; I_B= 0.3A		1.0	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	I_C= 10A; I_B= 2.5A		4.0	V
$V_{BE(on)-1}$	Base-Emitter On Voltage	I_C= 3A; V_{CE}= 4V		1.6	V
$V_{BE(on)-2}$	Base-Emitter On Voltage	I_C= 10A; V_{CE}= 4V		3.0	V
I_{CEO}	Collector Cutoff Current	V_{CE}= 30V; I_B= 0		0.7	mA
I_{CES}	Collector Cutoff Current	V_{CE}= 40V; V_{EB}= 0		0.4	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0		1.0	mA
h_{FE-1}	DC Current Gain	I_C= 1A; V_{CE}= 4V	40		
h_{FE-2}	DC Current Gain	I_C= 3A; V_{CE}= 4V	20	100	
f_T	Current-Gain—Bandwidth Product	I_C= 0.5A; V_{CE}= 10V; f_{test}= 1.0MHz	3		MHz