

isc Silicon NPN Power Transistors
TIP52
DESCRIPTION

- DC Current Gain $-h_{FE} = 30 \sim 150 @ I_C = 0.3A$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(SUS)} = 300V(\text{Min})$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

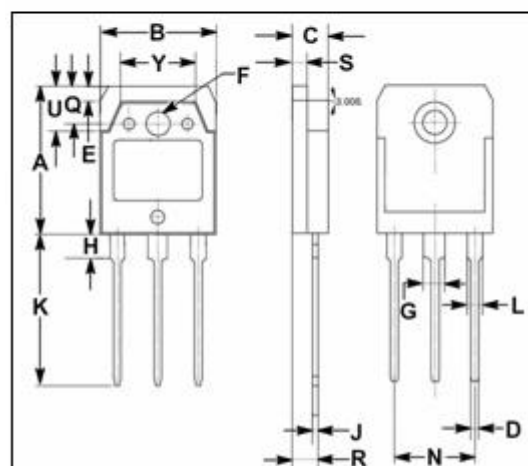
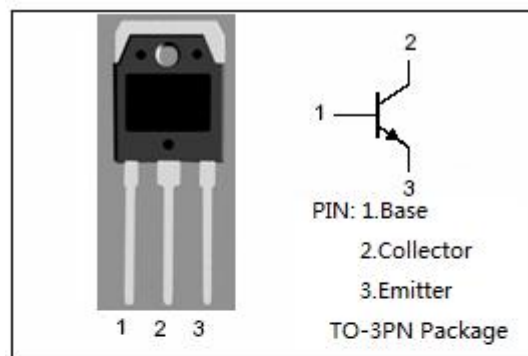
- Designed for line operated audio output amplifier, and switching power supply drivers applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	400	V
V_{CEO}	Collector-Emitter Voltage	300	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 $T_c = 25^\circ\text{C}$	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	19.60	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°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
V _{CEQ(SUS)}	Collector-Emitter Sustaining Voltage	I _C = 30mA; I _B = 0	300		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} = 400V; I _E = 0		1.0	mA
I _{CEO}	Collector Cutoff Current	V _{CE} = 200V; 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

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