

isc Silicon PNP Power Transistor

TIP36F

DESCRIPTION

- DC Current Gain-
: $h_{FE} = 25(\text{Min}) @ I_C = -1.5\text{A}$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(\text{SUS})} = -160\text{V}(\text{Min})$
- Complement to Type TIP35F
- Current Gain-Bandwidth Product-
: $f_T = 3.0\text{MHz}(\text{Min}) @ I_C = -1.0\text{A}$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

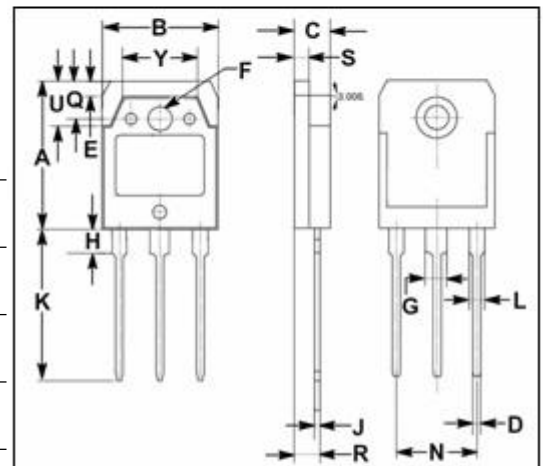
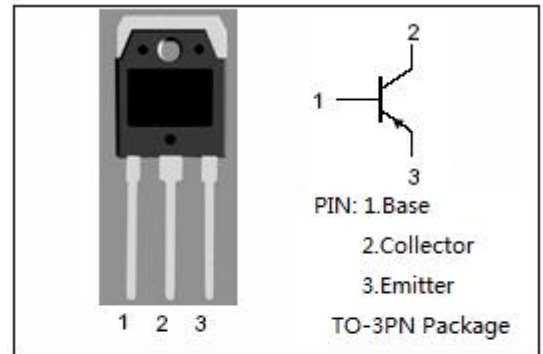
- Designed for use in general purpose power amplifier and switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	-200	V
V_{CEO}	Collector-Emitter Voltage	-160	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-25	A
I_{CM}	Collector Current-peak	-40	A
I_B	Base Current	-5	A
P_C	Collector Power Dissipation@ $T_C = 25^\circ\text{C}$	125	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-65~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.0	$^\circ\text{C/W}$



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

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C = -30\text{mA}; I_B = 0$	-160		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = -15\text{A}; I_B = -3\text{A}$		-2.5	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = -25\text{A}; I_B = -6.25\text{A}$		-5.0	V
$V_{BE(on)-1}$	Base-Emitter On Voltage	$I_C = -15\text{A}; V_{CE} = -4\text{V}$		-2.0	V
$V_{BE(on)-2}$	Base-Emitter On Voltage	$I_C = -25\text{A}; V_{CE} = -4\text{V}$		-4.0	V
I_{CEO}	Collector Cutoff Current	$V_{CE} = -90\text{V}; I_B = 0$		-1.0	mA
I_{CBO}	Collector Cutoff Current	$V_{CB} = -200\text{V}; I_E = 0$		-0.7	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$		-1.0	mA
h_{FE-1}	DC Current Gain	$I_C = -1.5\text{A}; V_{CE} = -4\text{V}$	25		
h_{FE-2}	DC Current Gain	$I_C = -15\text{A}; V_{CE} = -4\text{V}$	8		
f_T	Current-Gain—Bandwidth Product	$I_C = -1\text{A}; V_{CE} = -10\text{V}; f_{test} = 1.0\text{MHz}$	3		MHz

Switching Times

t_{on}	Turn-On Time	$I_C = -15\text{A}; I_{B1} = -I_{B2} = -1.5\text{A};$ $V_{BE(off)} = -4.15\text{V}; R_L = 2\Omega$		1.2	μs
t_{off}	Turn-Off Time			0.9	μs

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