

isc Silicon NPN Power Transistor

TIP3055

DESCRIPTION

- Excellent Safe Operating Area
- DC Current Gain-
: $h_{FE}=20-70@I_C = 4A$
- Collector-Emitter Saturation Voltage-
: $V_{CE(sat)}= 1.1 V(Max)@ I_C = 4A$
- Complement to Type TIP2955
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

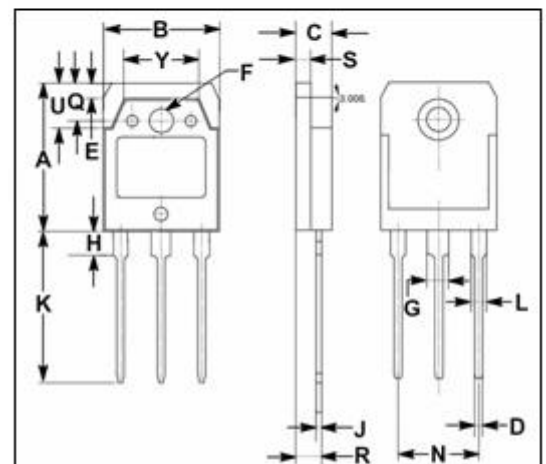
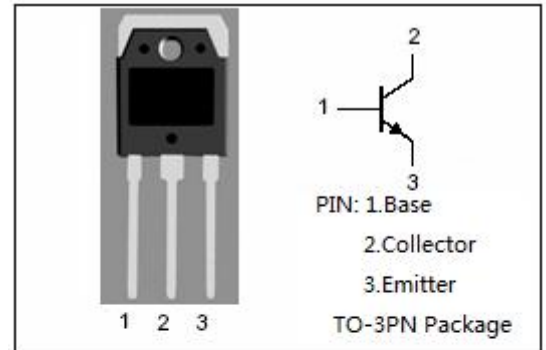
- Designed for general-purpose switching and amplifier applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-base Voltage	7	V
I_C	Collector Current-Continuous	15	A
I_B	Base Current	7	A
P_C	Collector Power Dissipation@ $T_C=25^{\circ}C$	90	W
T_j	Junction Tmperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-65~150	$^{\circ}C$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal Resistance,Junction to Case	1.39	$^{\circ}C/W$
$R_{th\ j-a}$	Thermal Resistance,Junction to Ambient	35.7	$^{\circ}C/W$



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	$I_C = 30\text{mA}; I_B = 0$	60		V
$V_{CE(sat)-1}$	Collector-Emitter Saturation Voltage	$I_C = 4\text{A}; I_B = 0.4\text{A}$		1.1	V
$V_{CE(sat)-2}$	Collector-Emitter Saturation Voltage	$I_C = 10\text{A}; I_B = 3.3\text{A}$		3.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = 4\text{A}; V_{CE} = 4\text{V}$		1.8	V
I_{CEO}	Collector Cutoff Current	$V_{CE} = 30\text{V}; I_B = 0$		0.7	mA
I_{CBO}	Collector Cutoff Current	$V_{CB} = 100\text{V}; I_E = 0$		1.0	mA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 7\text{V}; I_C = 0$		5.0	mA
h_{FE-1}	DC Current Gain	$I_C = 4\text{A}; V_{CE} = 4\text{V}$	20	70	
h_{FE-2}	DC Current Gain	$I_C = 10\text{A}; V_{CE} = 4\text{V}$	5		
$I_{S/b}$	Second Breakdown Collector Current with Base Forward Biased	$V_{CE} = 30\text{V}, t = 1.0\text{s}, \text{Nonrepetitive}$	3.0		A
f_T	Current-Gain—Bandwidth Product	$I_C = 0.5\text{A}; V_{CE} = 10\text{V}; f_{test} = 1.0\text{MHz}$	2.5		MHz

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