

## 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

### APPLICATIONS

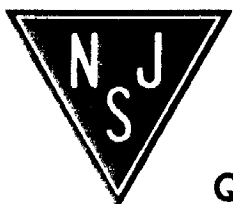
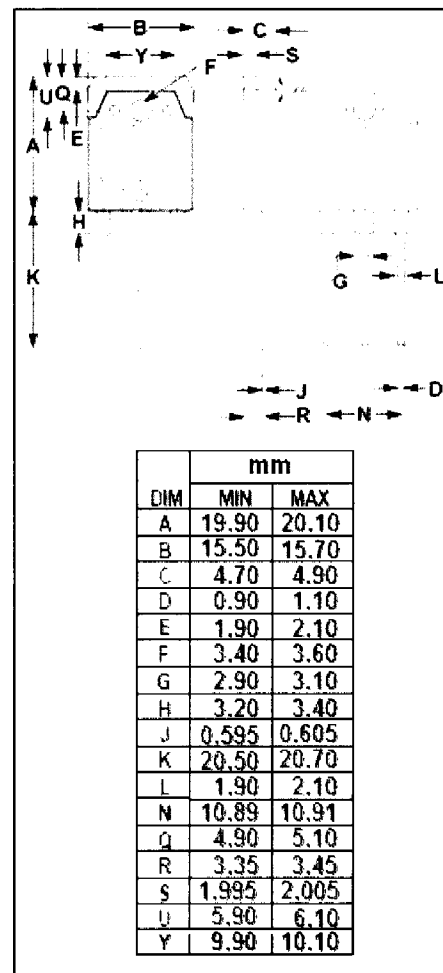
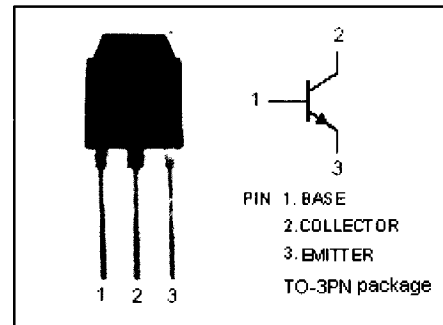
- Designed for general-purpose switching and amplifier applications.

### 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 Temperature	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	$^\circ C/W$



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## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CE(SUS)}$	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
$I_{CER}$	Collector Cutoff Current	$V_{CE}=70\text{V}; R_{BE}=100\Omega$		1.0	mA
$I_{CEV}$	Collector Cutoff Current	$V_{CE}=100\text{V}; V_{BE(OFF)}=1.5\text{V}$		5.0	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

