



**2N3055**

## POWER LINEAR AND SWITCHING APPLICATIONS

The 2N3055 is a silicon epitaxial-base NPN transistor in JEDEC TO-3 metal case. It is intended for power switching circuits, series and shunt regulators, output stages and high fidelity amplifiers.

### ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings	Value	Unit
$V_{CBO}$	Collector to Base Voltage	100	V
$V_{CEO}$	#Collector-Emitter Voltage	60	V
$V_{CER}$	Collector-Emitter Voltage	70	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current – Continuous	15	Adc
$I_B$	Base Current – Continuous	7	Adc
$P_D$	Total Device Dissipation	@ $T_C = 25^\circ$ Derate above $25^\circ$	115 0.657 Watts W/°C
$T_J$	Junction Temperature	200	°C
$T_S$	Storage Temperature	-65 to +200	°C

### THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
$R_{thJC}$	Thermal Resistance, Junction to Case	1.52	°C/W

# 2N3055

## ELECTRICAL CHARACTERISTICS

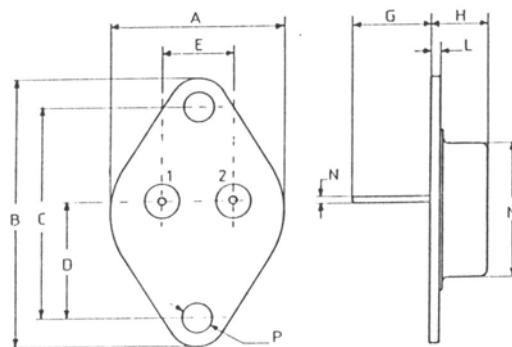
TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage (1)	$I_C=200\text{ mAdc}$ , $I_B=0$	60	-	-	Vdc
$BV_{CER}$	Collector-Emitter Breakdown Voltage (1)	$I_C=200\text{ mAdc}$ , $R_{BE}=100\Omega$	70	-	-	Vdc
$I_{CEO}$	Collector-Emitter Current	$V_{CE}=30\text{ Vdc}$ , $I_B=0$	-	-	0.7	mAdc
$I_{CEX}$	Collector Cutoff Current	$V_{CE}=100\text{ Vdc}$ , $V_{EB(off)}=1.5\text{ Vdc}$	-	-	5.0	mAdc
		$V_{CE}=100\text{ Vdc}$ , $V_{EB(off)}=1.5\text{ Vdc}$ , $T_C=150^\circ\text{C}$	-	-	30	
$I_{EBO}$	Emitter Cutoff Current	$V_{BE}=7.0\text{ Vdc}$ , $I_C=0$	-	-	5.0	mAdc
$h_{FE}$	DC Current Gain	$I_C=4.0\text{ Adc}$ , $V_{CE}=4.0\text{ Vdc}$	20	-	70	
		$I_C=10\text{ Adc}$ , $V_{CE}=4.0\text{ Vdc}$	5.0	-	-	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage	$I_C=4.0\text{ Adc}$ , $I_B=0.4\text{ Adc}$	-	-	1.1	Vdc
		$I_C=10\text{ Adc}$ , $I_B=3.3\text{ Adc}$	-	-	8.0	
$V_{BE}$	Base-Emitter Voltage	$I_C=4.0\text{ Adc}$ , $V_{CE}=4.0\text{ Vdc}$	-	1.8	-	Vdc
$h_{fe}$	Small Signal Current Gain	$V_{CE}=4.0\text{ Vdc}$ , $I_C=1.0\text{ Adc}$ , $f=1.0\text{ kHz}$	15	-	120	-
$f_{\alpha e}$	Small Signal Current Gain Cutoff Frequency	$V_{CE}=4.0\text{ Vdc}$ , $I_C=1.0\text{ Adc}$ , $f=1.0\text{ kHz}$	10	-	-	kHz
$I_{s/b}$	Second Breakdown Collector Current	$t=1\text{ S}$ (non repetitive), $V_{CE}=60\text{ Vdc}$	1.95	-	-	A

In accordance with JEDEC Registration Data  
 (1) Pulse Width  $\approx 300\ \mu\text{s}$ , Duty Cycle  $< 2.0\%$

## MECHANICAL CHARACTERISTICS CASE-TO-3

DIMENSIONS		
	mm	inches
A	25,51	1,004
B	38,93	1,53
C	30,12	1,18
D	17,25	0,68
E	10,89	0,43
G	11,62	0,46
H	8,54	0,34
L	1,55	0,6
M	19,47	0,77
N	1	0,04
P	4,06	0,16



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector

*Information furnished is believed to be accurate and reliable. However, CS assumes no responsibility for the consequences of use of such information nor for errors that could appear.  
 Data are subject to change without notice.*