



## 2N3055

### NPN SILICON POWER TRANSISTORS

The 2N3055 is a silicon Planar Epitaxial NPN transistor in Jedec TO-3 metal case. Designed for general purpose, moderate speed, switching and amplifier applications Compliance to RoHS.

#### 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	
$V_{CB}$	Collector-Base Voltage	100	V	
$V_{EB}$	Emitter-Base Voltage	7	V	
$I_C$	Collector Current – Continuous	15	A	
$I_B$	Base Current – Continuous	7	A	
$P_D$	Total Device Dissipation	@ $T_C = 25^\circ$	115	W
		Derate above $25^\circ$	0.657	W/ $^\circ$ C
$T_J$	Junction Temperature	200	$^\circ$ C	
$T_S$	Storage Temperature	-65 to +200	$^\circ$ C	

#### THERMAL CHARACTERISTICS

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



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### ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

Symbol	Ratings	Test Condition(s)	Min	Typ	Max	Unit
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage (*)	$I_C = 200 \text{ mA}, I_B = 0$	60	-	-	V
$V_{CER}$	Collector-Emitter Breakdown Voltage (*)	$I_C = 200 \text{ mA}, R_{BE} = 100\Omega$	70	-	-	V
$I_{CEO}$	Collector-Emitter Current	$V_{CE} = 30 \text{ V}, I_B = 0$	-	-	0.7	mA
$I_{CEX}$	Collector Cutoff Current	$V_{CE} = 100 \text{ V}, V_{EB(off)} = 1.5 \text{ V}$	-	-	5	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{BE} = 7 \text{ V}, I_C = 0$	-	-	5	mA
$h_{FE}$	DC Current Gain	$I_C = 4 \text{ A}, V_{CE} = 4 \text{ A}$	20	-	70	
$V_{CE(SAT)}$	Collector-Emitter saturation Voltage	$I_C = 4 \text{ A}, I_B = 400 \text{ mA}$	-	-	1.1	V
$V_{BE}$	Base-Emitter Voltage	$I_C = 4 \text{ A}, V_{CE} = 4 \text{ V}$	-	1.8	-	V
$h_{fe}$	Small Signal Current Gain	$V_{CE} = 4 \text{ V}, I_C = 1 \text{ A}$ $f = 1 \text{ kHz}$	15	-	120	-
$f_{\alpha e}$	Small Signal Current Gain Cutoff Frequency	$V_{CE} = 4 \text{ V}, I_C = 1 \text{ A}$ $f = 1 \text{ kHz}$	10	-	-	kHz
$I_{s/b}$	Second Breakdown Collector Current	$t = 1 \text{ S (non repetitive)}$	1.95	-	-	A

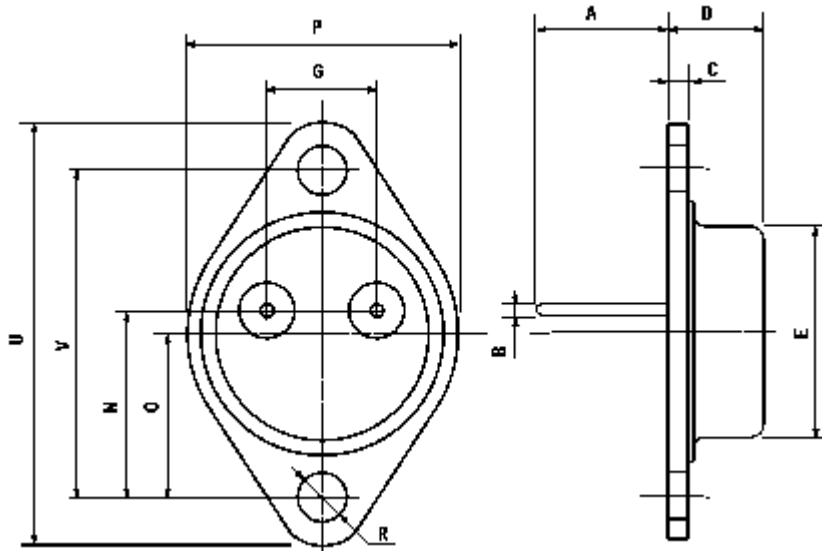
In accordance with JEDEC Registration Data

(\*) Pulse Width  $\approx 300 \mu\text{s}$ , Duty Cycle  $\angle 2.0\%$

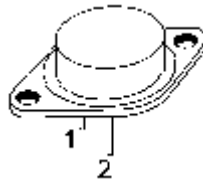
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### MECHANICAL DATA CASE TO-3

DIMENSIONS (mm)		
	min	max
A	11	13.10
B	0.97	1.15
C	1.5	1.65
D	8.32	8.92
F	19	20
G	10.70	11.1
N	16.50	17.20
P	25	26
R	4	4.09
U	38.50	39.30
V	30	30.30



Pin 1 :	Base
Pin 2 :	Emitter
Case :	Collector



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