

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

2N3054  
2N3054A

NPN SILICON POWER TRANSISTOR

JEDEC TO-66 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N3054, 2N3054A types are NPN Silicon Power Transistors manufactured by the epitaxial base process, mounted in a hermetically sealed metal case, designed for general purpose switching and amplifier applications. The 2N3054A uses a larger chip than the 2N3054 to allow better power dissipation and lower thermal resistance.

## MAXIMUM RATINGS ( $T_C = 25^\circ\text{C}$ )

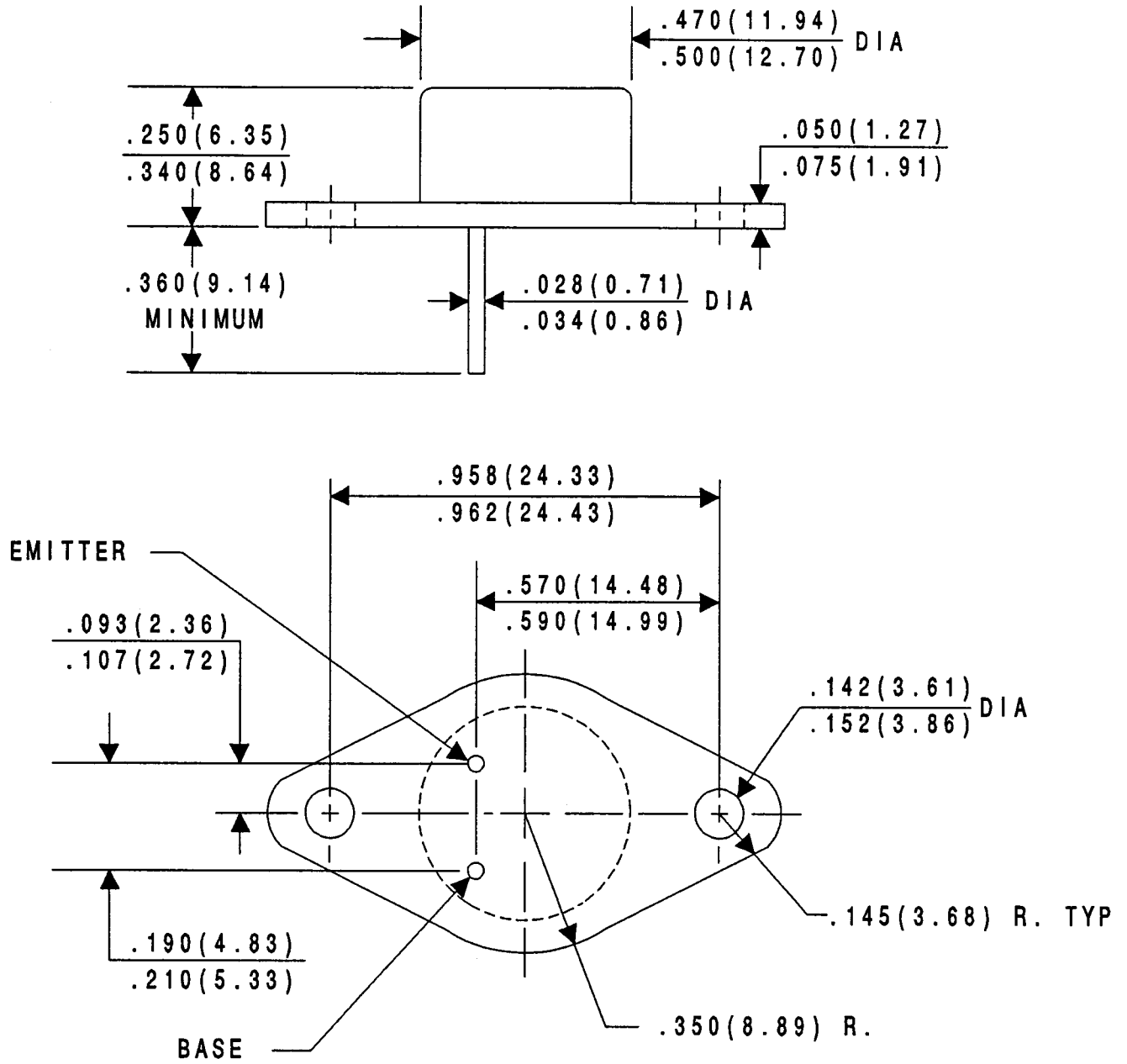
	SYMBOL	2N3054	2N3054A	UNITS
Collector-Base Voltage	$V_{CBO}$	90	90	V
Collector-Emitter Voltage	$V_{CEV}$	90	90	V
Collector-Emitter Voltage	$V_{CER}$	60	60	V
Collector-Emitter Voltage	$V_{CEO}$	55	55	V
Emitter-Base Voltage	$V_{EBO}$	7.0	7.0	V
Collector Current	$I_C$	4.0	4.0	A
Base Current	$I_B$	2.0	2.0	A
Power Dissipation	$P_D$	25	75	W
Operating and Storage				
Junction Temperature	$T_J, T_{stg}$	-65 to +200		$^\circ\text{C}$
Thermal Resistance	$\theta_{J-C}$	7.0	2.33	$^\circ\text{C/W}$

## ELECTRICAL CHARACTERISTICS ( $T_C = 25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	2N3054 2N3054A		UNITS
		MIN	MAX	
$I_{CEV}$	$V_{CE} = 90\text{V}, V_{EB(OFF)} = 1.5\text{V}$		1.0	mA
$I_{CEV}$	$V_{CE} = 90\text{V}, V_{EB(OFF)} = 1.5\text{V}, T_C = 150^\circ\text{C}$		6.0	mA
$I_{CEO}$	$V_{CE} = 30\text{V}$		500	$\mu\text{A}$
$I_{EBO}$	$V_{BE} = 7.0\text{V}$		1.0	mA
$BV_{CEO}$	$I_C = 100\text{mA}$	55		V
$BV_{CER}$	$I_C = 100\text{mA}, R_{BE} = 100\Omega$	60		V
$V_{CE(SAT)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$		1.0	V
$V_{CE(SAT)}$	$I_C = 3.0\text{A}, I_B = 1.0\text{A}$		6.0	V
$V_{BE(ON)}$	$V_{CE} = 4.0\text{V}, I_C = 500\text{mA}$		1.7	V
$h_{FE}$	$V_{CE} = 4.0\text{V}, I_C = 500\text{mA}$	25	150	
$h_{FE}$	$V_{CE} = 4.0\text{V}, I_C = 3.0\text{A}$	5.0		
$h_{fe}$	$V_{CE} = 4.0\text{V}, I_C = 100\text{mA}, f = 1.0\text{kHz}$	25	180	
$f_T$	$V_{CE} = 10\text{V}, I_C = 200\text{mA}, f = 1.0\text{MHz}$	3.0		MHz
$f_{hfe}$	$V_{CE} = 4.0\text{V}, I_C = 100\text{mA}$	30		kHz

(OVER)

# JEDEC TO-66 CASE - MECHANICAL OUTLINE



All Dimensions in Inches (mm).