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

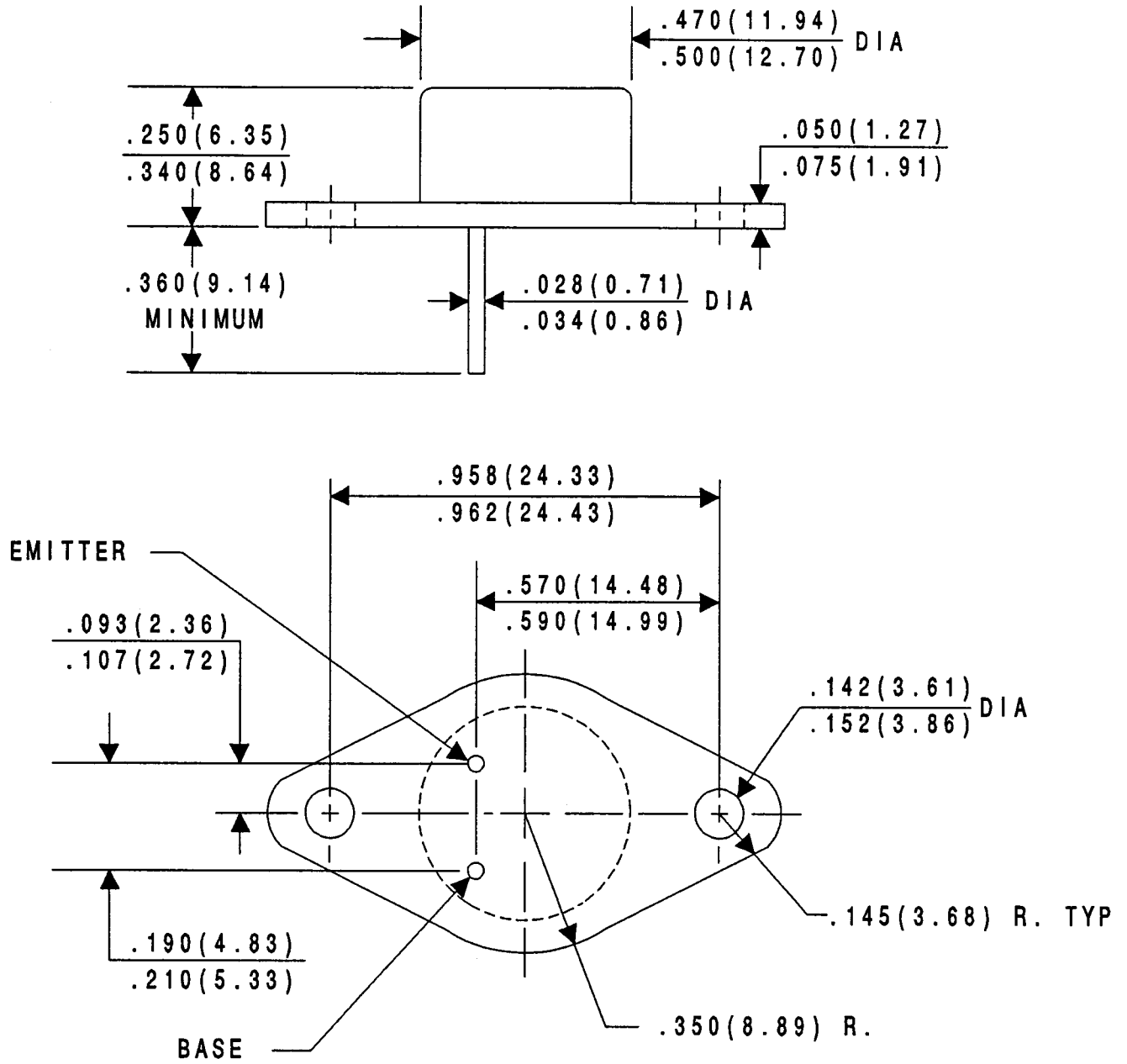
	SYMBOL	2N3054	2N3054A	UNITS
Collector-Base Voltage	V_{CBO}	90	90	V
Collector-Emitter Voltage	V_{CEV}	90	90	V
Collector-Emitter Voltage	V_{CER}	60	60	V
Collector-Emitter Voltage	V_{CEO}	55	55	V
Emitter-Base Voltage	V_{EBO}	7.0	7.0	V
Collector Current	I_C	4.0	4.0	A
Base Current	I_B	2.0	2.0	A
Power Dissipation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