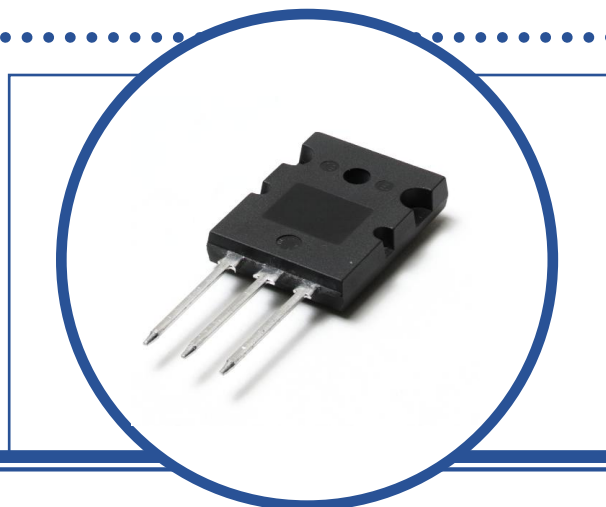


# SILICON EPITAXIAL PLANAR NPN TRANSISTOR



## MAG6333

- TO-264 Plastic Package
- Complimentary PNP – MAG9413
- Designed specifically for audio power amplifier applications
- Highest current audio bipolar available on the market with widest safe operating area



### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise stated)

$V_{CBO}$	Collector – Base Voltage	260V
$V_{CEO}$	Collector – Emitter Voltage	230V
$V_{EBO}$	Emitter – Base Voltage	5V
$I_C$	Continuous Collector Current	30A
$I_B$	Base Current	8A
$I_{CM}$	Peak Collector Current	45A
$P_D$	Total Power Dissipation at $T_A = 25^\circ\text{C}$	400W
$T_J$	Maximum Junction Temperature	150°C
$T_{stg}$	Storage Temperature Range	-55 to +150°C

### THERMAL PROPERTIES

Symbols	Parameters	Min.	Typ.	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction To Case			0.32	°C/W

Magnatec reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Magnatec is believed to be both accurate and reliable at the time of going to press. However Magnatec assumes no responsibility for any errors or omissions discovered in its use. Magnatec encourages customers to verify that datasheets are current before placing orders.



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

Symbols	Parameters	Test Conditions	Min.	Typ	Max.	Units
$I_{CBO}$	Collector-Cut-Off Current	$V_{CB} = 260\text{V}$			100	$\mu\text{A}$
$I_{EBO}$	Emitter-Cut-Off-Current	$V_{EB} = 5\text{V}$			100	$\mu\text{A}$
$V_{(BR)CEO}$	Collector-Base Breakdown Voltage	$I_C = 10\text{mA}$	260			V
$V_{CE(sat)}^{(1)}$	Collector-Emitter Saturation Voltage	$I_C = 10\text{A}$ $I_B = 1\text{A}$			1	V
		$I_C = 20\text{A}$ $I_B = 2\text{A}$			1.5	
$V_{BE(sat)}^{(1)}$	Base-Emitter Saturation Voltage	$I_C = 20\text{A}$ $I_B = 2\text{A}$			2.0	
$h_{FE}^{(1)}$	Forward-current transfer ratio	$I_C = 5\text{A}$ $V_{CE} = 4\text{V}$	50 <sup>(2)</sup>			
		$I_C = 10\text{A}$ $V_{CE} = 4\text{V}$	45			

## DYNAMIC CHARACTERISTICS

$f_T$	Transition Frequency	$I_E = 2\text{A}$ $V_{CE} = 12\text{V}$		60		MHz
$C_{obo}$	Output Capacitance	$V_{CB} = 10\text{V}$		800		$\mu\text{F}$
		$f = 1.0\text{MHz}$				

### Notes

- (1) Pulse Width  $\leq 300\mu\text{s}$ ,  $\delta \leq 2\%$   
(2)  $h_{FE}$  Rank : A (50 to 100), B(70 to 140)

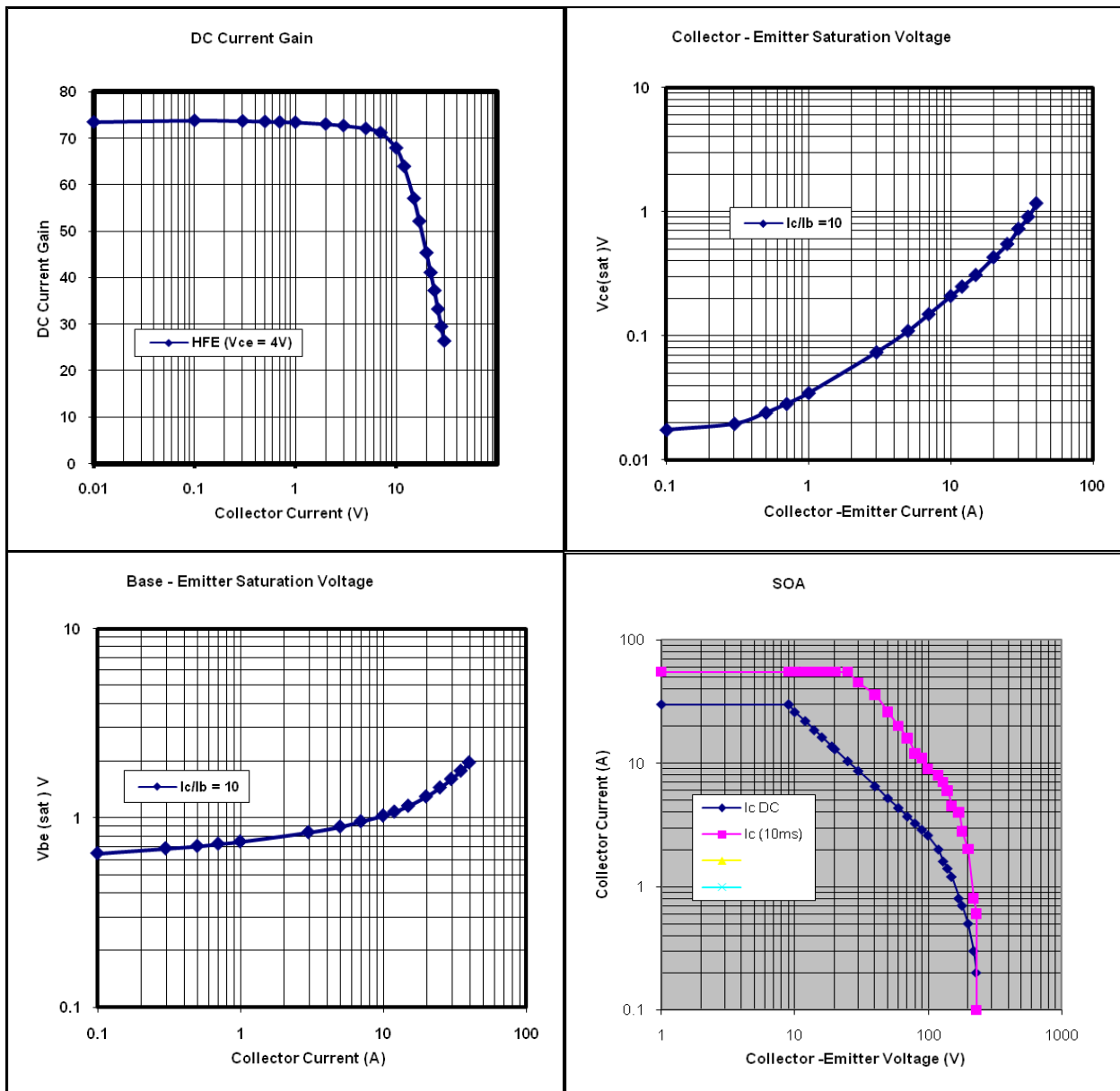
## ORDERING INFORMATION

Part Number	Marking	Package	Package Method	Remarks
MAG6333A	MAG6333A	TO-264	TUBE	$h_{FE}$ A Rank
MAG6333B	MAG6333B	TO-264	TUBE	$h_{FE}$ B Rank

# SILICON EPITAXIAL NPN TRANSISTOR MAG6333



## TYPICAL CHARACTERISTICS

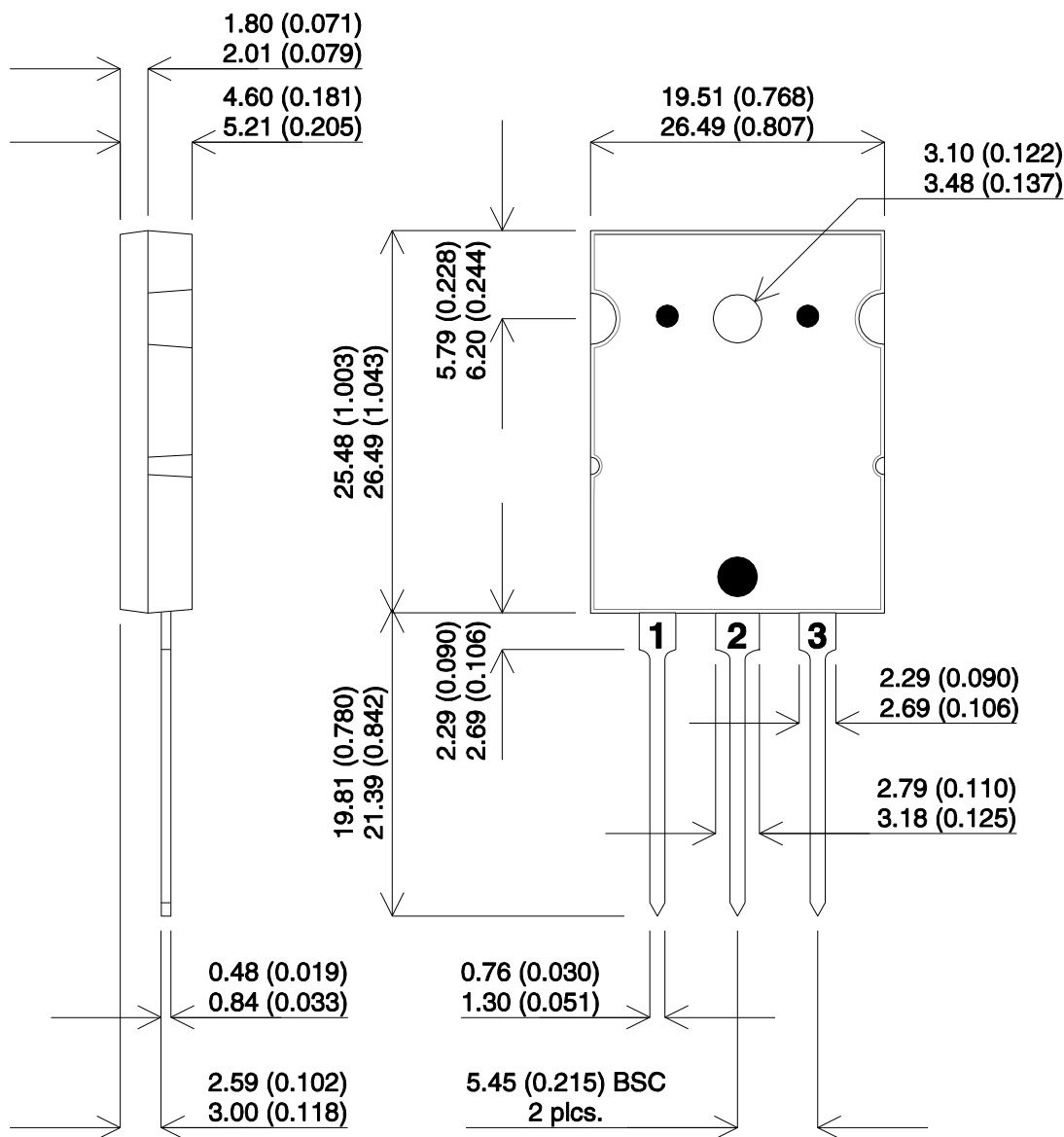


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## MECHANICAL DATA

Dimensions in mm (inches)



### TO-264

Pin 1 - Base

Pin 2 - Collector

Case - Emitter