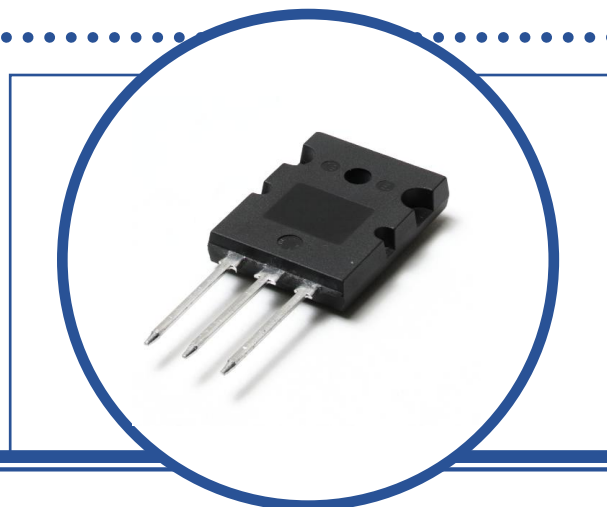


SILICON EPITAXIAL PLANAR NPN TRANSISTOR



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.



SILICON EPITAXIAL NPN TRANSISTOR MAG6333



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	μA
I_{EBO}	Emitter-Cut-Off-Current	$V_{EB} = 5\text{V}$			100	μA
$V_{(BR)CEO}$	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 ⁽²⁾			
		$I_C = 10\text{A}$ $V_{CE} = 4\text{V}$	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		pF
		$f = 1.0\text{MHz}$				

Notes

(1) Pulse Width $\leq 300\mu\text{s}$, $\delta \leq 2\%$

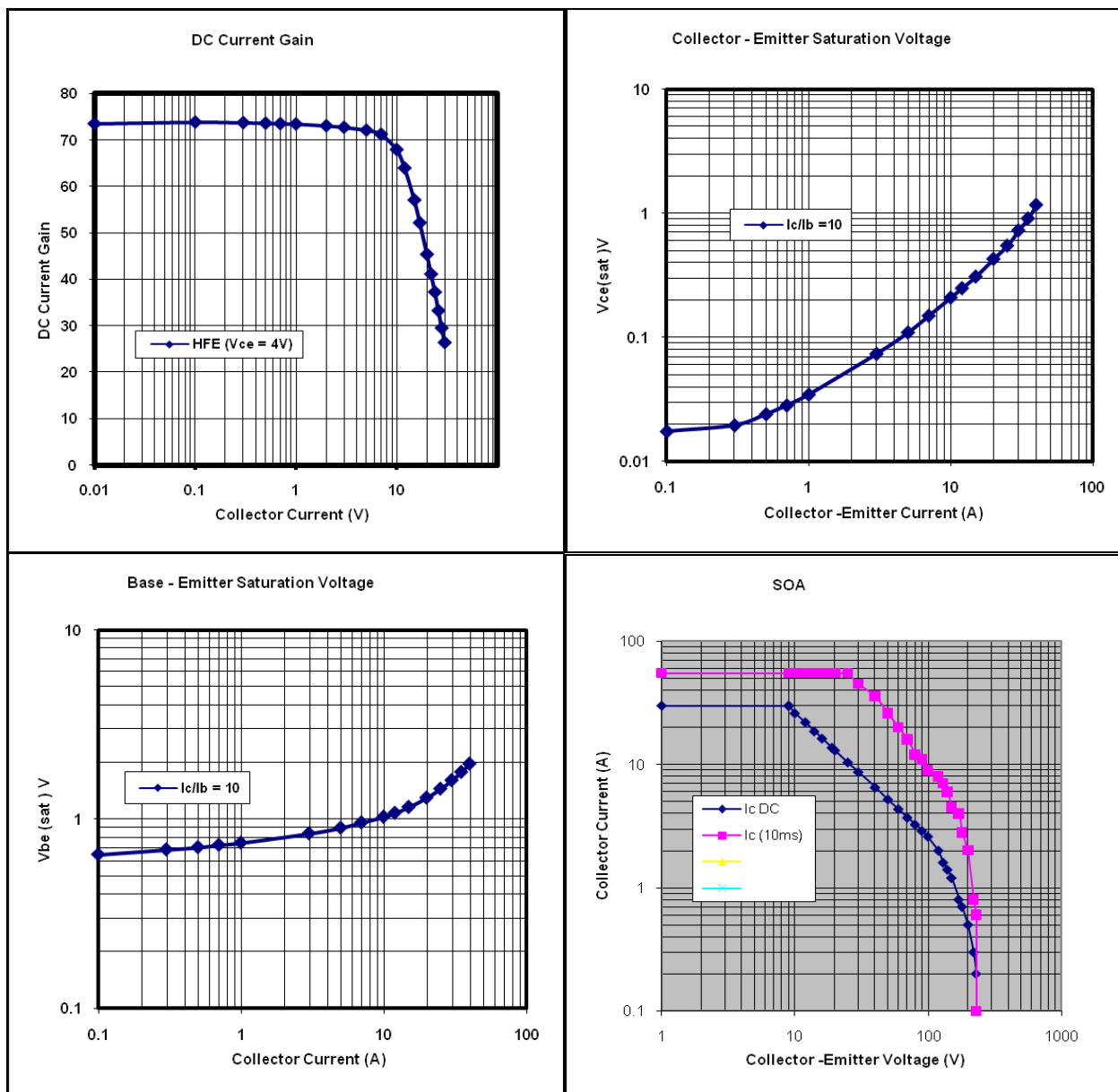
(2) h_{FE} Rank : A (50 to 100), B(70 to 140)

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

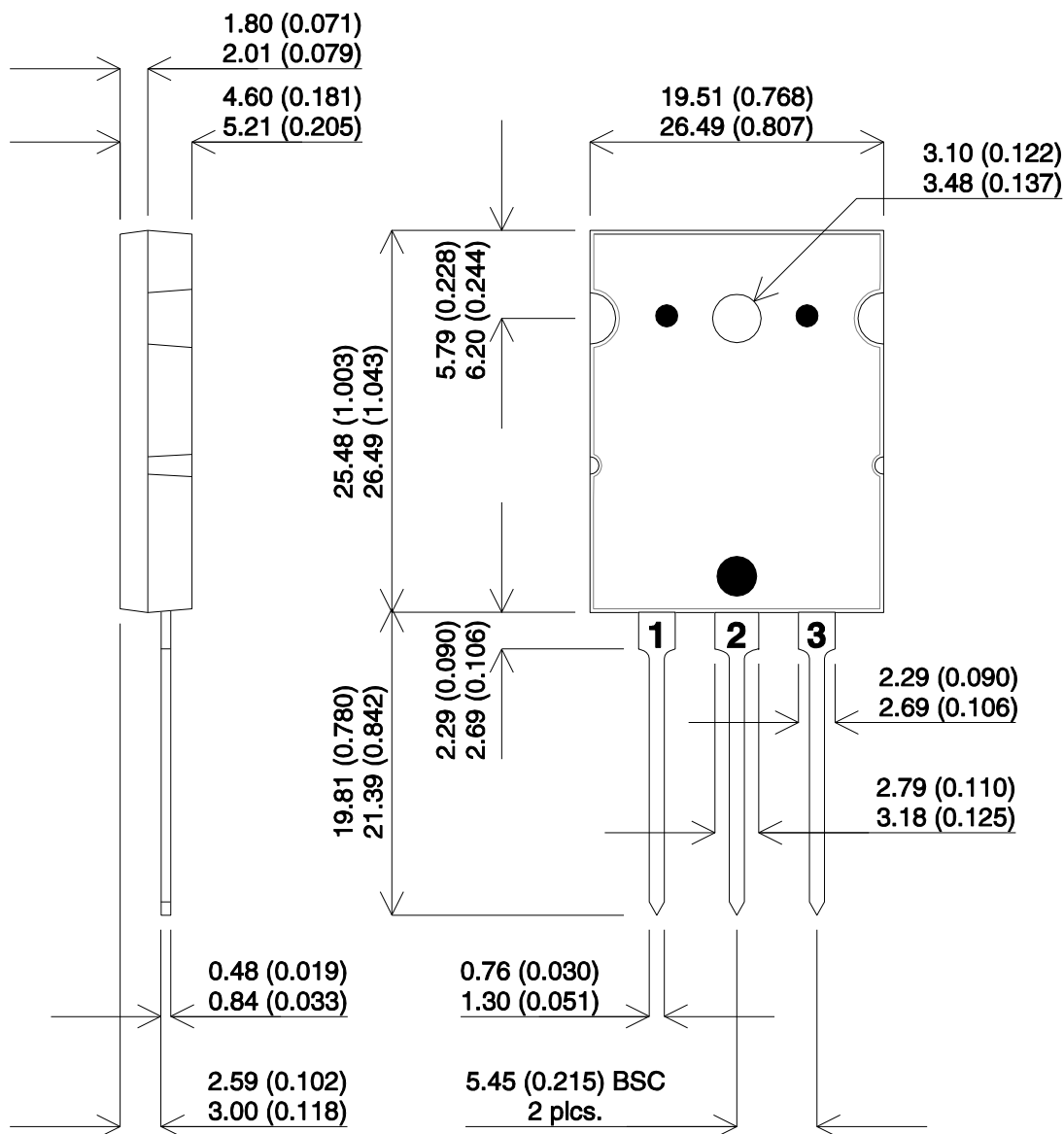


SILICON EPITAXIAL NPN TRANSISTOR MAG6333



MECHANICAL DATA

Dimensions in mm (inches)



TO-264

Pin 1 - Base

Pin 2 - Collector

Case - Emitter