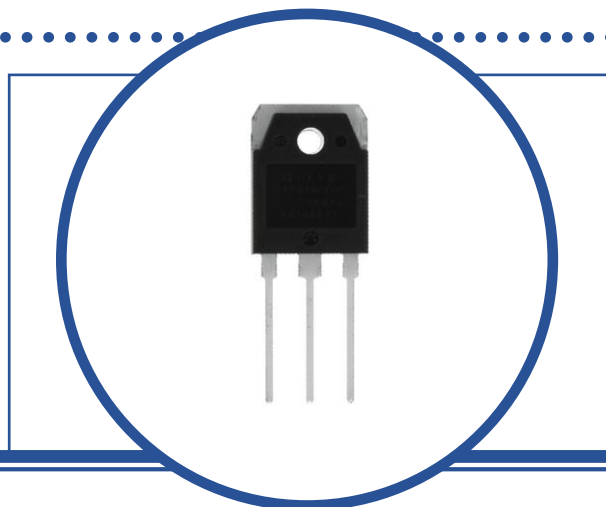


SILICON EPITAXIAL PLANAR NPN TRANSISTOR



MAG6330, MAG6330-R

- TO-3P Plastic Package
- Complimentary PNP – MAG9410
- 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)

		MAG6330	MAG6330-R
V_{CBO}	Collector – Base Voltage	230V	260V
V_{CEO}	Collector – Emitter Voltage	230V	
V_{EBO}	Emitter – Base Voltage	5V	
I_C	Continuous Collector Current	15A	
I_B	Base Current	4A	
P_D	Total Power Dissipation at $T_A = 25^\circ\text{C}$	200W	
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			0.63	°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 PNP TRANSISTOR MAG6330, MAG6330-R



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	MAG6330	$V_{CB} = 230\text{V}$			100	μA
		MAG6330-R	$V_{CB} = 260\text{V}$				
I_{EBO}	Emitter-Cut-Off-Current	$V_{EB} = 5\text{V}$				100	μA
$V_{(BR)CEO}$	Collector-Base Breakdown Voltage	$I_C = 25\text{mA}$	MAG6330	230			V
			MAG6330-R	260			
$V_{CE(sat)}^{(1)}$	Collector-Emitter Saturation Voltage	$I_C = 5\text{A}$	$I_B = 0.5\text{A}$			2.0	V
h_{FE}	Forward-current transfer ratio	$I_C = 5\text{A}$	$V_{CE} = 4\text{V}$	70		140	

DYNAMIC CHARACTERISTICS

f_T	Transition Frequency	$I_E = -2\text{A}$	$V_{CE} = 12\text{V}$		60		MHz
C_{OB}	Output Capacitance	$V_{CB} = 10\text{V}$	$f = 1.0\text{MHz}$		250		pF

Notes

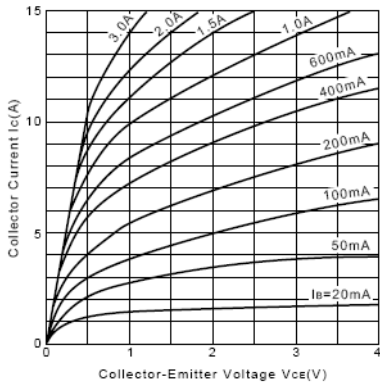
Pulse Width $\leq 300\mu\text{s}$, $\delta \leq 2\%$

SILICON EPITAXIAL PNP TRANSISTOR MAG6330, MAG6330-R

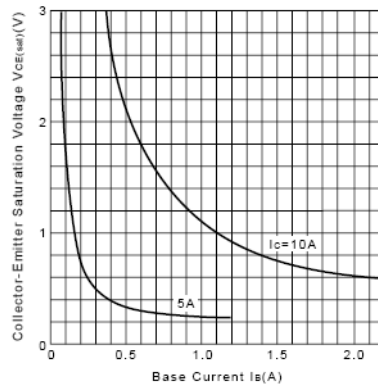


TYPICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise stated)

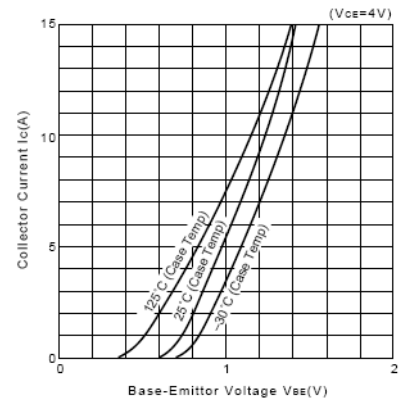
$I_C - V_{CE}$ Characteristics (Typical)



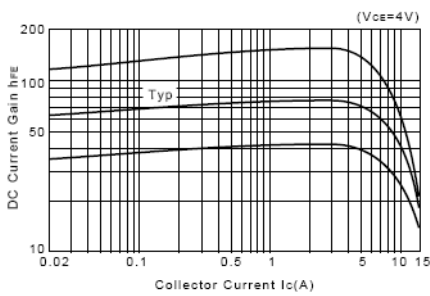
$V_{CE(sat)} - I_B$ Characteristics (Typical)



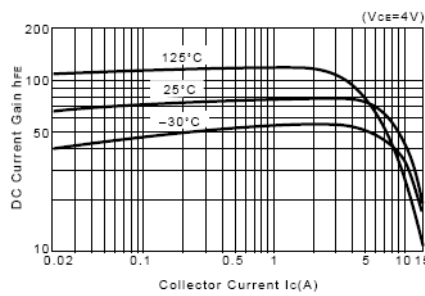
$I_C - V_{BE}$ Temperature Characteristics (Typical)



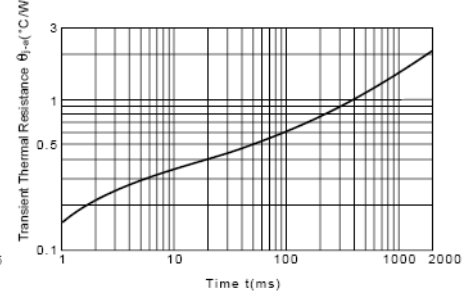
$h_{FE} - I_C$ Characteristics (Typical)



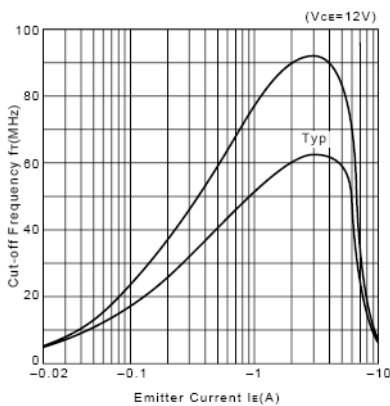
$h_{FE} - I_C$ Temperature Characteristics (Typical)



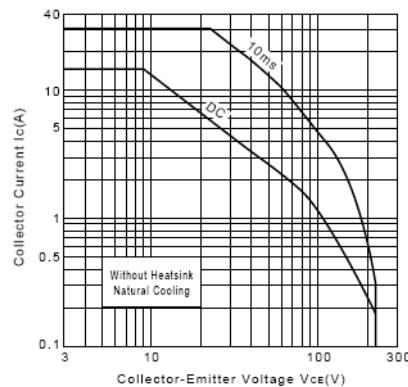
$\theta_{j-a} - t$ Characteristics



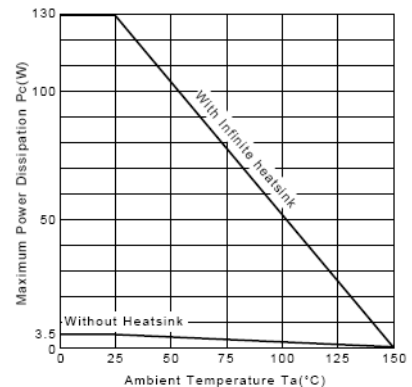
$f_T - I_E$ Characteristics (Typical)



Safe Operating Area (Single Pulse)



$P_C - T_a$ Derating

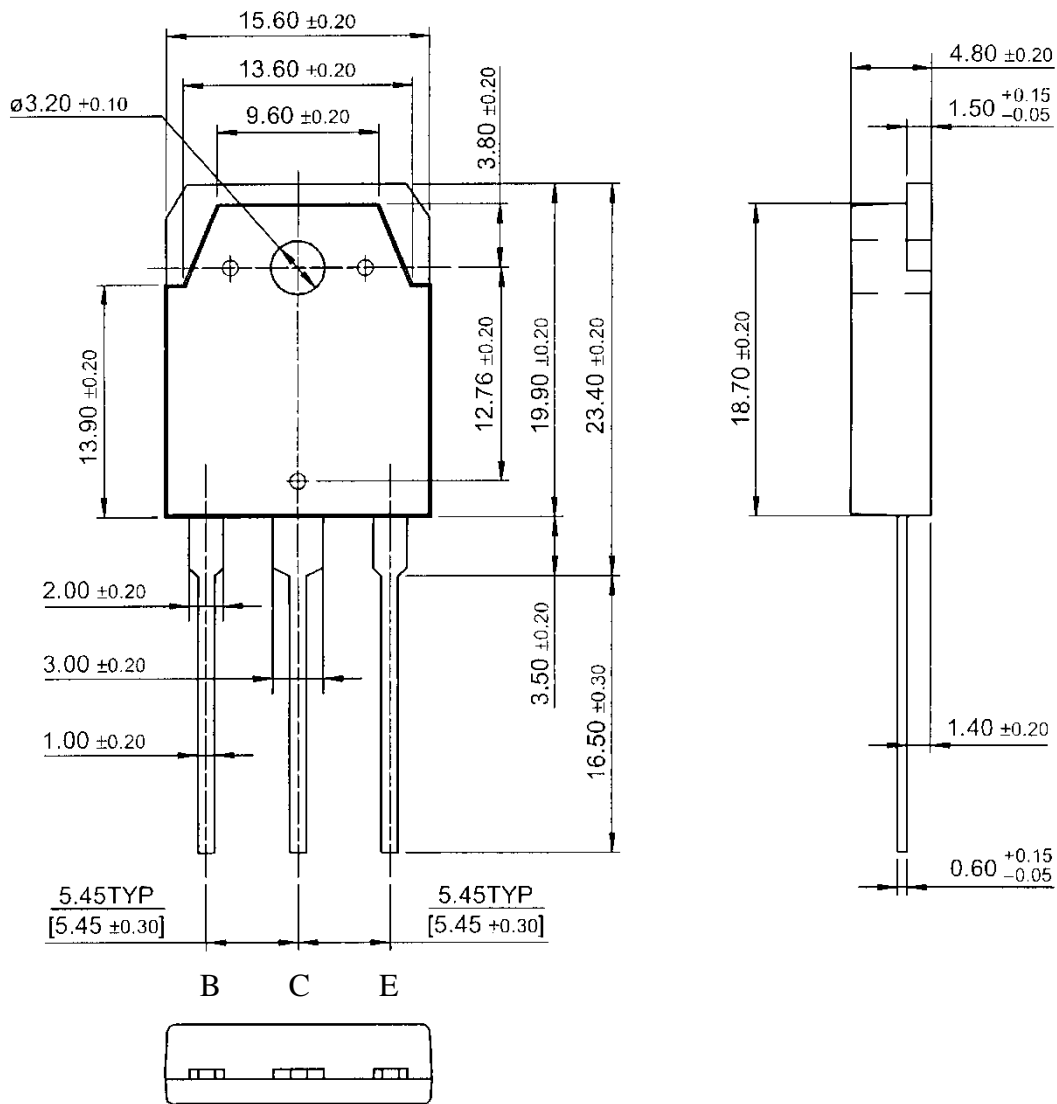


SILICON EPITAXIAL PNP TRANSISTOR MAG6330, MAG6330-R



MECHANICAL DATA

Dimensions in mm (inches)



TO3P
Pin1 – Base Pin2 – Collector Pin3 - Emitter