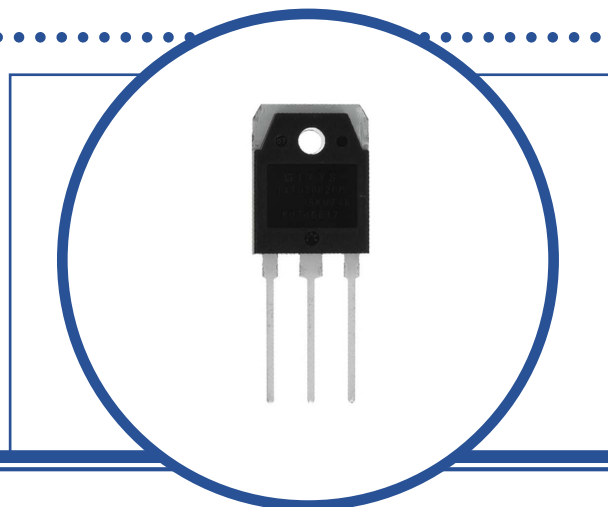


SILICON EPITAXIAL PLANAR NPN TRANSISTOR

MG6331, MG6331-R

- TO-3P Plastic Package
- Complimentary PNP – MG9411
- Designed specifically for audio power amplifier applications
- Highest Current audio bipolar available on the market with widest Safe Operating Area in TO-3P package



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

		MG6331	MG6331-R
V_{CBO}	Collector – Base Voltage	230V	260V
V_{CEO}	Collector – Emitter Voltage	230V	260V
V_{EBO}	Emitter – Base Voltage	5V	
I_C	Continuous Collector Current	18A	
I_B	Base Current	4A	
P_D	Total Power Dissipation at $T_A = 25^\circ\text{C}$	300W	
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			0.42	°C/W

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

SILICON EPITAXIAL NPN TRANSISTOR MG6331, MG6331-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	MG6331	$V_{CB} = 230\text{V}$			10	μA
		MG6331-R	$V_{CB} = 260\text{V}$				
I_{EBO}	Emitter-Cut-Off-Current	$V_{EB} = 5\text{V}$				10	μA
$V_{(BR)CEO}$	Collector-Base Breakdown Voltage	$I_C = 25\text{mA}$	MG6331	230			V
			MG6331-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

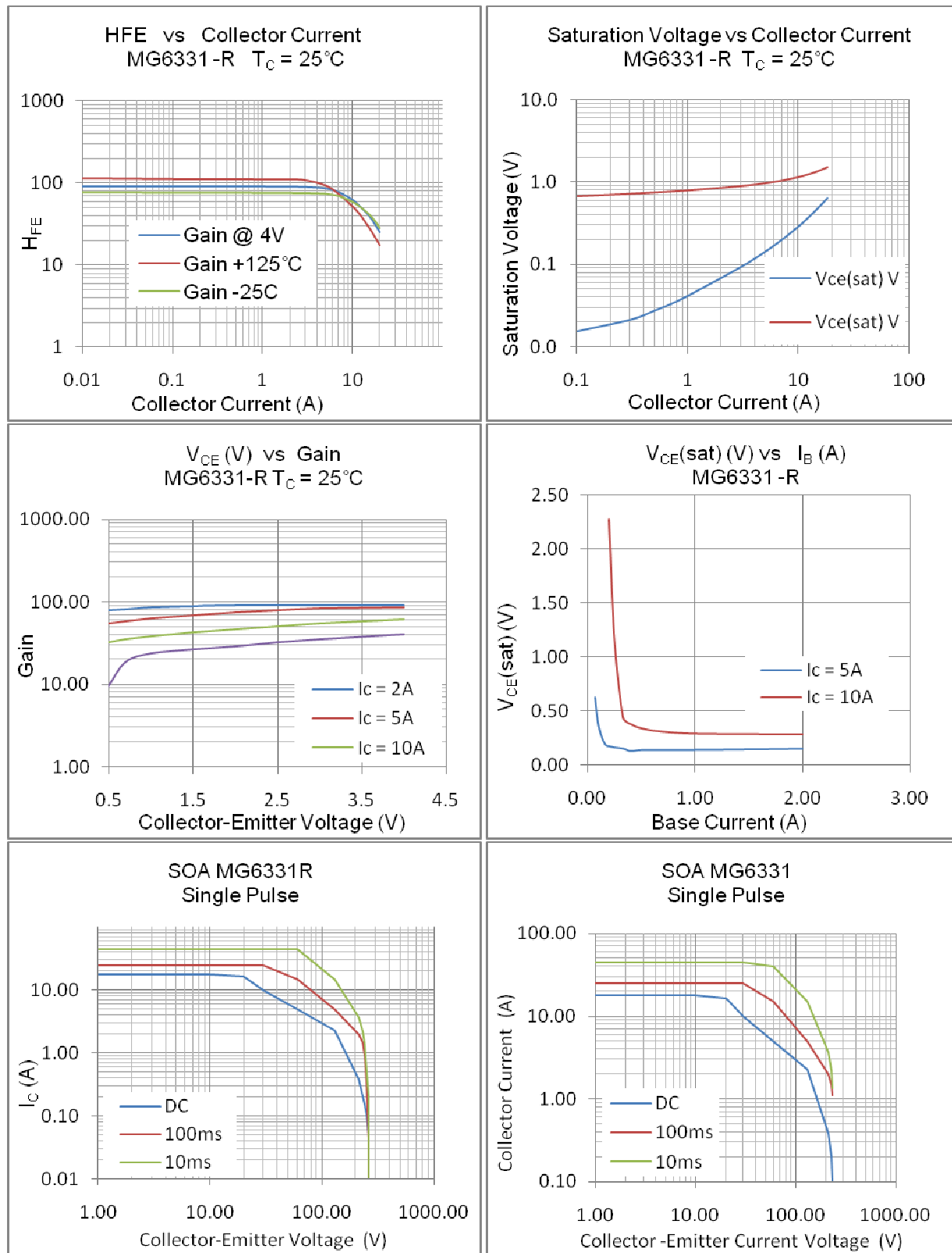
f_T	Transition Frequency	$I_E = -2\text{A}$	$V_{CE} = 12\text{V}$		60		MHz
C_{OB}	Output Capacitance	$V_{CB} = 10\text{V}$	$f = 1.0\text{MHz}$		250		pF

Notes

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

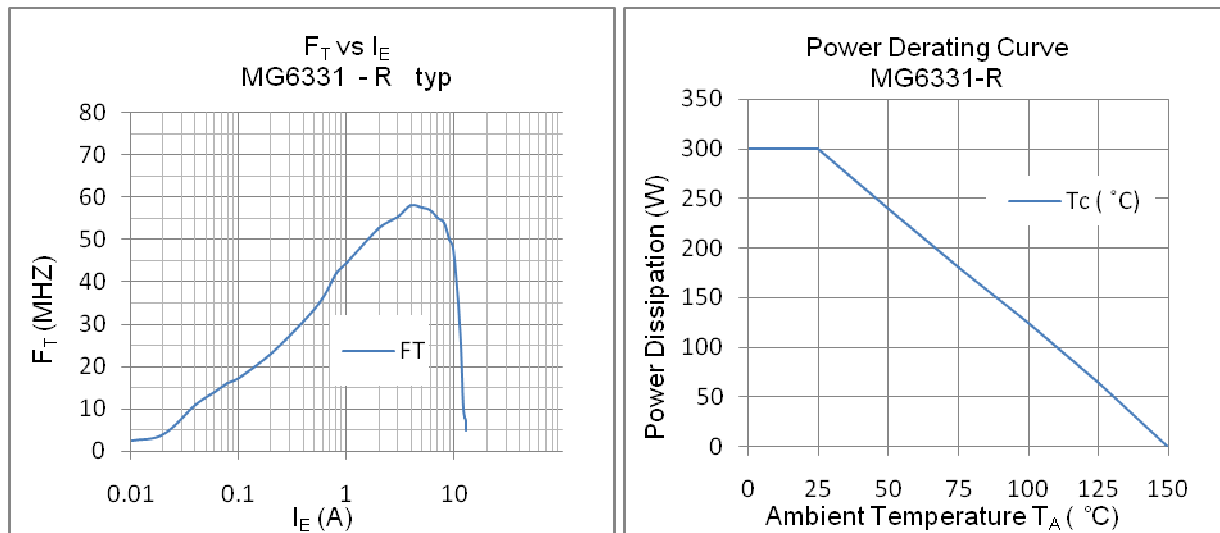
SILICON EPITAXIAL NPN TRANSISTOR MG6331, MG6331-R

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



SILICON EPITAXIAL NPN TRANSISTOR MG6331, MG6331-R

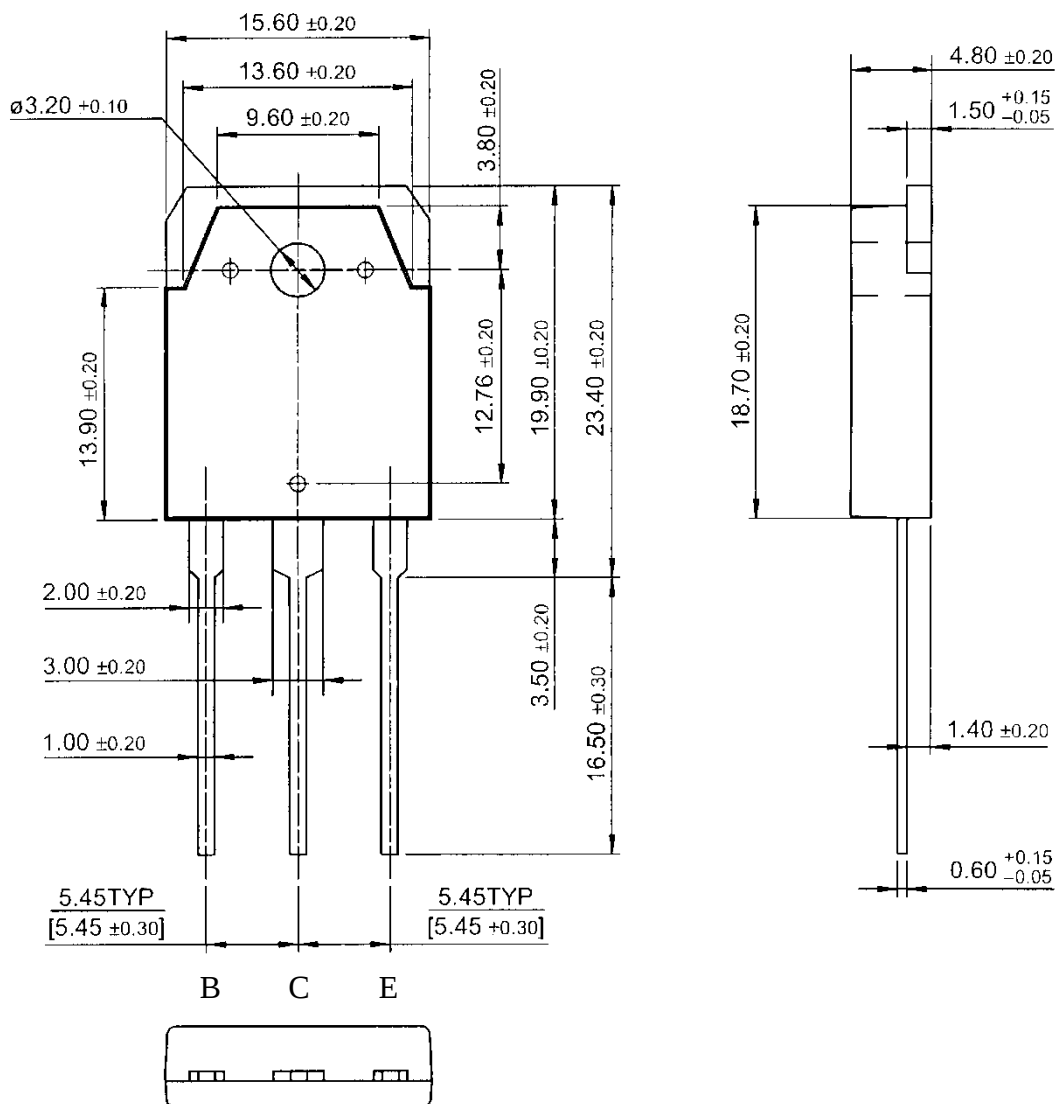
TYPICAL CHARACTERISTICS CONTINUED ($T_A = 25^\circ\text{C}$ unless otherwise stated)



SILICON EPITAXIAL NPN TRANSISTOR MG6331, MG6331-R

MECHANICAL DATA

Dimensions in mm (inches)



TO3P
Pin1 – Base Pin2 – Collector Pin3 - Emitter