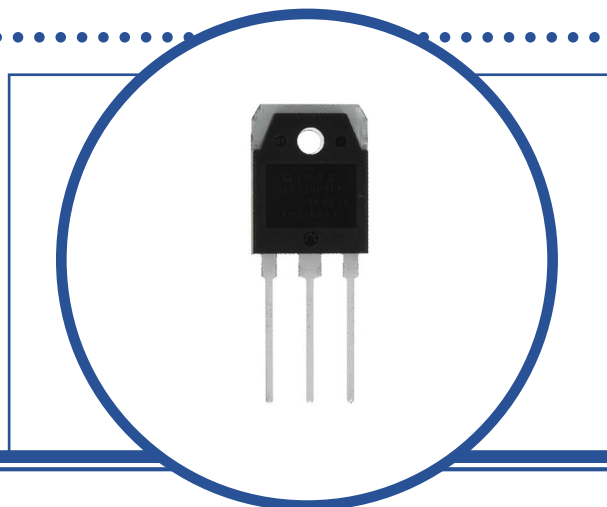


SILICON EPITAXIAL PLANAR NPN TRANSISTOR

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°C unless otherwise stated)

		MG6331	MG6331-R
V _{CB0}	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°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 _{θJC}	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

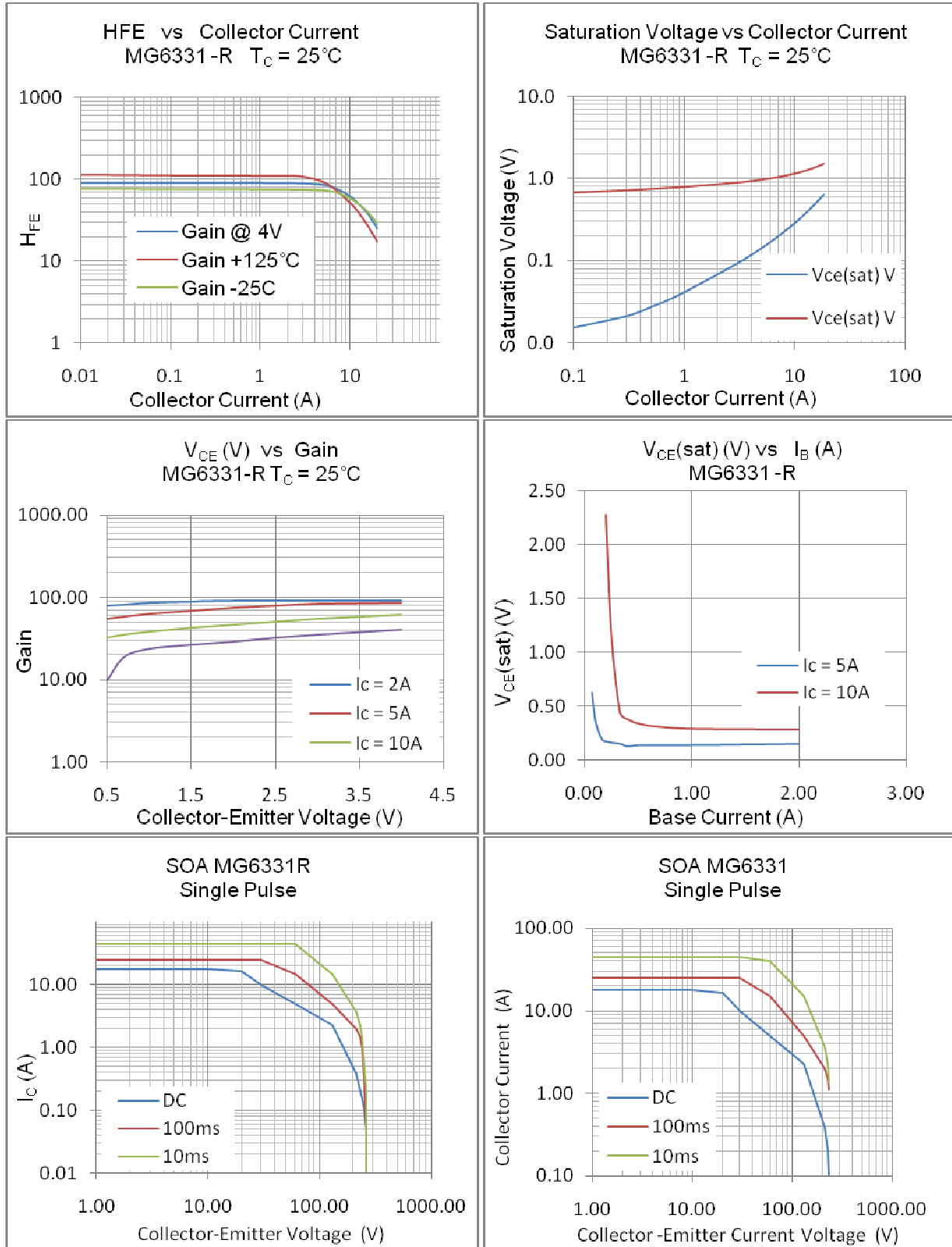
f_T	Transition Frequency	$I_E = -2\text{A}$	$V_{CE} = 12\text{V}$		60		MHz
C_{OB}	Output Capacitance	$V_{CB} = 10\text{V}$	$f = 1.0\text{MHz}$		250		pF

Notes

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

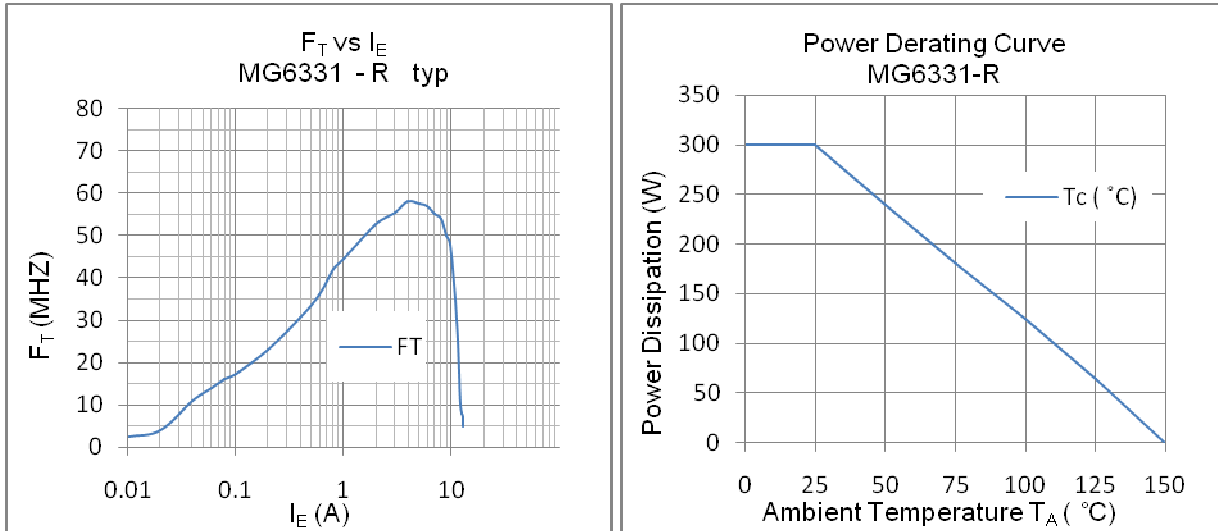
SILICON EPITAXIAL NPN TRANSISTOR MG6331, MG6331-R

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



SILICON EPITAXIAL NPN TRANSISTOR MG6331, MG6331-R

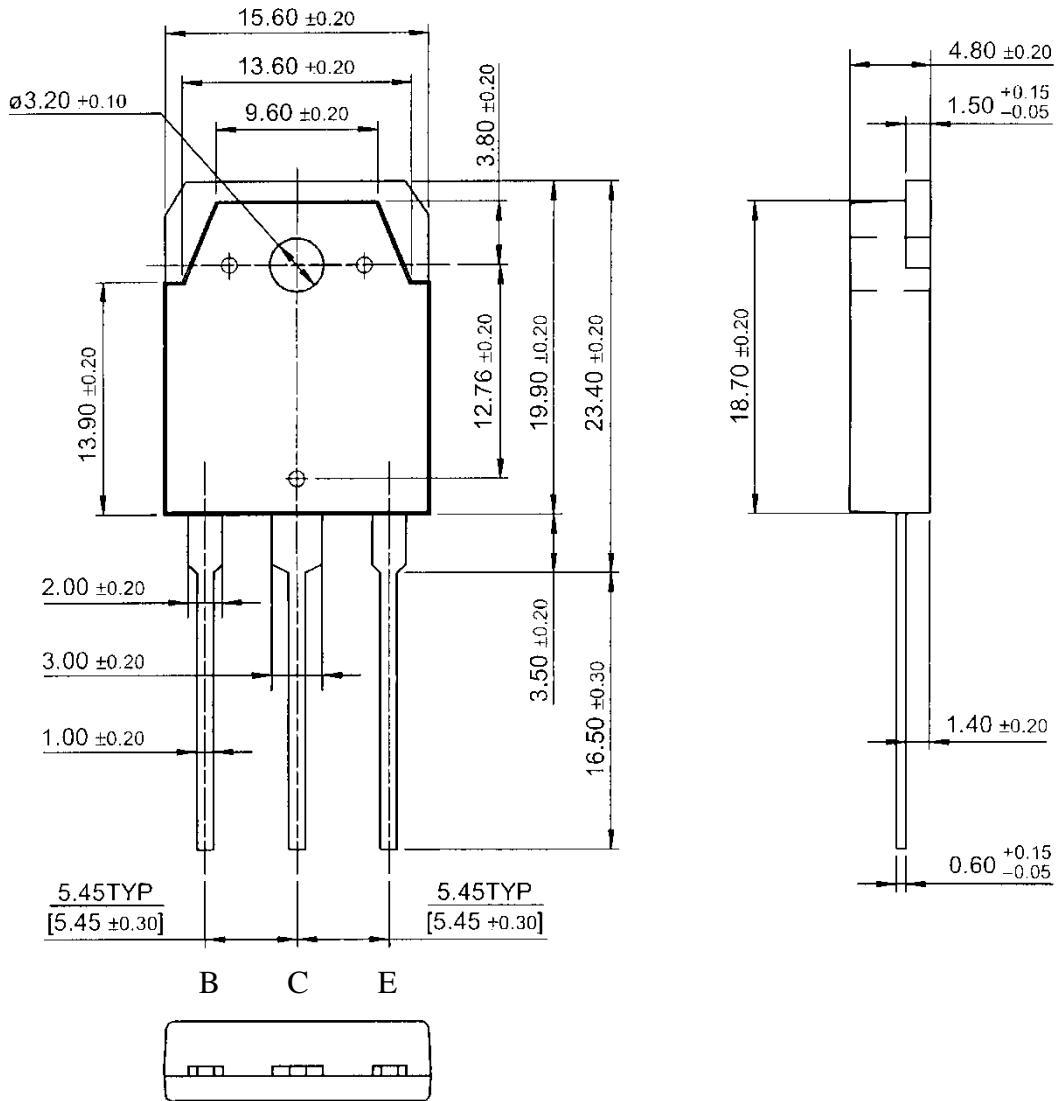
TYPICAL CHARACTERISTICS CONTINUED ($T_A = 25^\circ\text{C}$ unless otherwise stated)



SILICON EPITAXIAL NPN TRANSISTOR MG6331, MG6331-R

MECHANICAL DATA

Dimensions in mm (inches)



TO3P

Pin1 – Base Pin2 – Collector Pin3 - Emitter