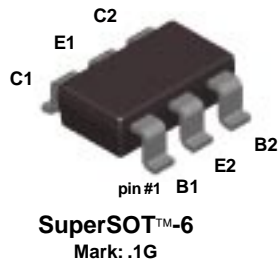


## FMBA06



### NPN Multi-Chip General Purpose Amplifier

This device is designed for general purpose amplifier applications at collector currents to 300 mA. Sourced from Process 33.

#### Absolute Maximum Ratings\*

$T_A = 25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CEO}$	Collector-Emitter Voltage	80	V
$V_{CBO}$	Collector-Base Voltage	80	V
$V_{EBO}$	Emitter-Base Voltage	4.0	V
$I_C$	Collector Current - Continuous	500	mA
$T_J, T_{stg}$	Operating and Storage Junction Temperature Range	-55 to +150	$^\circ\text{C}$

\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

#### NOTES:

- 1) These ratings are based on a maximum junction temperature of 150 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

#### Thermal Characteristics

$T_A = 25^\circ\text{C}$  unless otherwise noted

Symbol	Characteristic	Max	Units
		FMBA06	
$P_D$	Total Device Dissipation	700	mW
	Derate above $25^\circ\text{C}$	5.6	mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	180	$^\circ\text{C}/\text{W}$

# NPN Multi-Chip General Purpose Amplifier

(continued)

FMBA06

## Electrical Characteristics

$T_A = 25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
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### OFF CHARACTERISTICS

$V_{(BR)CEO}$	Collector-Emitter Sustaining Voltage*	$I_C = 1.0\text{ mA}, I_B = 0$	80			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 100\ \mu\text{A}, I_C = 0$	4.0			V
$I_{CEO}$	Collector-Cutoff Current	$V_{CE} = 60\text{ V}, I_B = 0$			0.1	$\mu\text{A}$
$I_{CBO}$	Collector-Cutoff Current	$V_{CB} = 80\text{ V}, I_E = 0$			0.1	$\mu\text{A}$

### ON CHARACTERISTICS

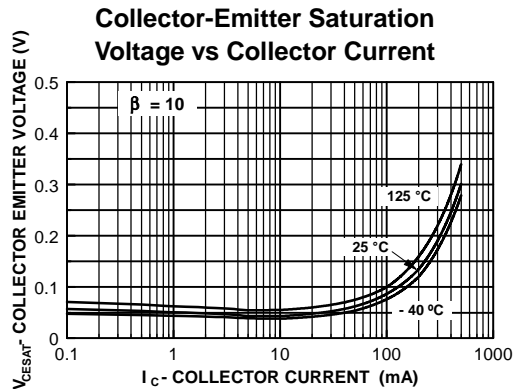
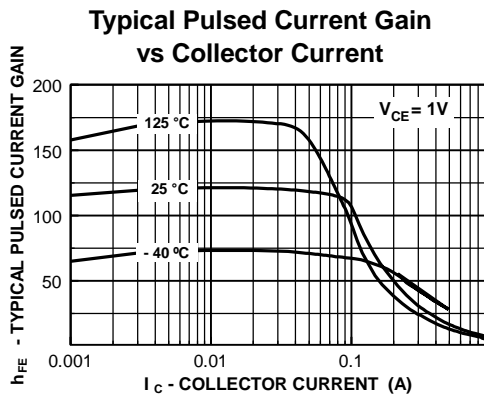
$h_{FE}$	DC Current Gain	$I_C = 10\text{ mA}, V_{CE} = 1.0\text{ V}$ $I_C = 100\text{ mA}, V_{CE} = 1.0\text{ V}$	100 100			
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 100\text{ mA}, I_B = 10\text{ mA}$			0.25	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = 100\text{ mA}, V_{CE} = 1.0\text{ V}$			1.2	V

### SMALL SIGNAL CHARACTERISTICS

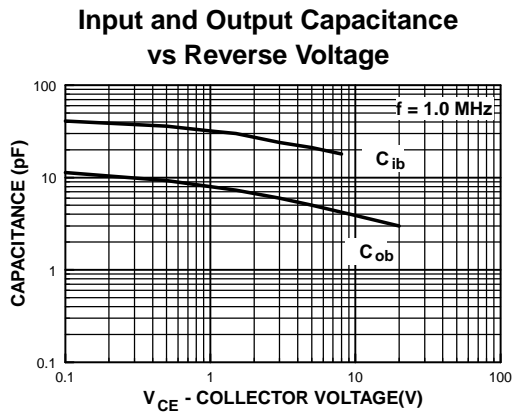
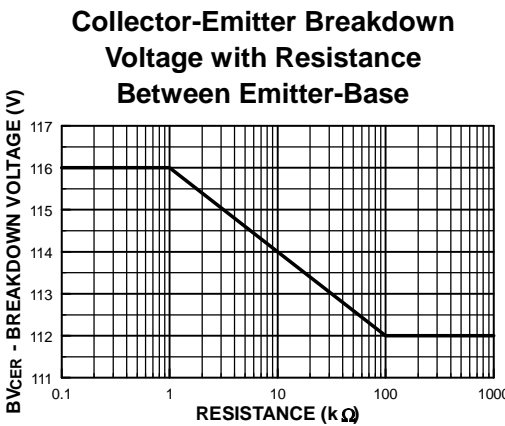
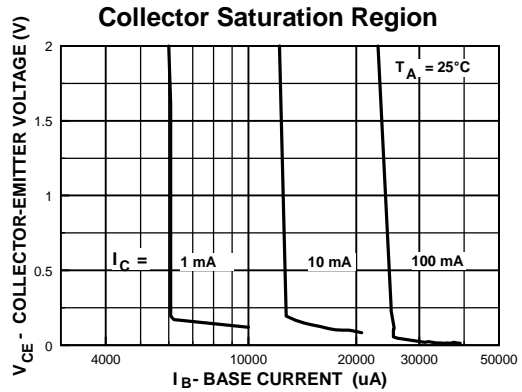
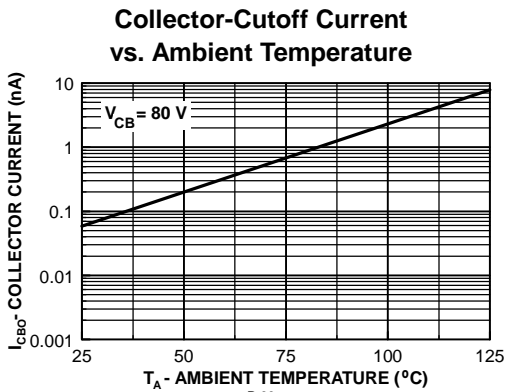
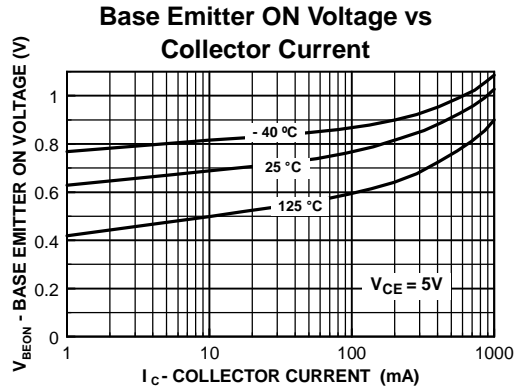
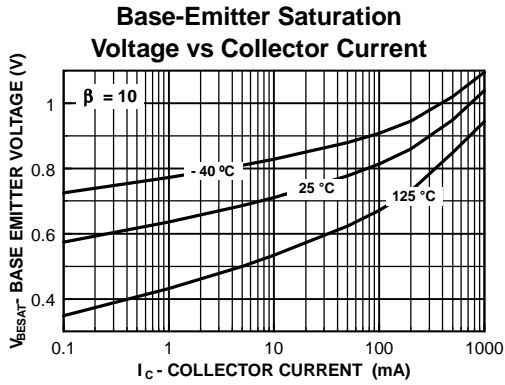
$f_T$	Current Gain - Bandwidth Product	$I_C = 10\text{ mA}, V_{CE} = 2.0\text{ V},$ $f = 100\text{ MHz}$		150		MHz
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\*Pulse Test: Pulse Width  $\leq 300\ \mu\text{s}$ , Duty Cycle  $\leq 2.0\%$

## Typical Characteristics



Typical Characteristics (continued)



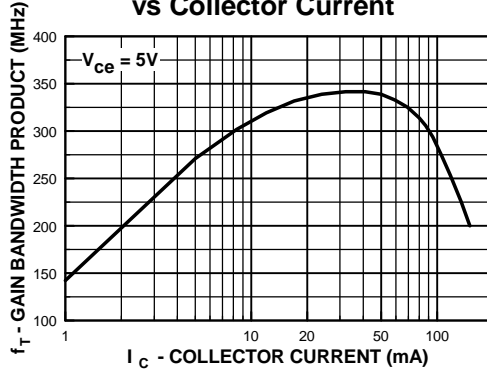
# NPN Multi-Chip General Purpose Amplifier

(continued)

FMBA06

## Typical Characteristics (continued)

### Gain Bandwidth Product vs Collector Current



### Power Dissipation vs Ambient Temperature

