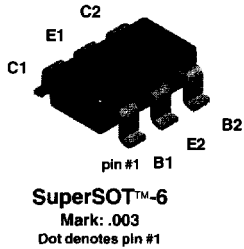




FMBA0656



TRANSISTOR TYPE			
C1	B1	E1	NPN
C2	B2	E2	PNP

NPN & PNP General Purpose Amplifier

This complementary device is designed for general purpose amplifier applications at collector currents to 300 mA. Sourced from Process 33 and 73. See FMBA06 (NPN) and FMBA56 (PNP) for characteristics.

Absolute Maximum Ratings* $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CE0}	Collector-Emitter Voltage	80	V
V_{CB0}	Collector-Base Voltage	80	V
V_{EB0}	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.
- 3) All voltages (V) and currents (A) are negative polarity for PNP transistors.

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

Symbol	Characteristic	Max	Units
		FMBA0656	
P_D	Total Device Dissipation Derate above 25°C	700	mW
		5.6	mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	180	$^\circ\text{C}/\text{W}$

NPN & PNP General Purpose Amplifier

(continued)

FMBBA0656

Electrical Characteristics

TA = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
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OFF CHARACTERISTICS

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

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			
$V_{CE(sat)}$	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	$I_C = 100 \text{ mA}, V_{CE} = 2.0 \text{ V},$ $f = 100 \text{ MHz}$		50		MHz
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*Pulse Test: Pulse Width $\leq 300 \mu\text{s}$, Duty Cycle $\leq 2.0\%$

NOTE: All voltages (V) and currents (A) are negative polarity for PNP transistors.