



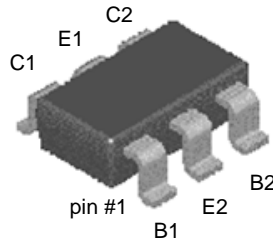
THE DATASHEET OF FMB857B



FMB857B

PNP Epitaxial Silicon Transistor

- This device is designed for general purpose amplifier application at collector currents to 300mA.
- Sourced from process 68.



SSOT-6
Mark: .N2
Dot denotes pin #1

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current (DC)	500	mA
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 ~ 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	Parameter	Max.	Units
P_D	Total Device Dissipation	700	mW
	Derate above 25°C	5.6	mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	180	$^\circ\text{C}/\text{W}$

*Device mounted on FR-4 PCB 1.6" X 1.6" X 0.06".

Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = 10\mu\text{A}$	50			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 1\text{mA}$	45			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 10\mu\text{A}$	5			V
BV_{CEX}	Collector-Emitter Cutoff Voltage	$I_C = 10\mu\text{A}, V_{BE} = 1\text{V}$	50			nA
I_{CBO}	Collector Cut-off Current	$V_{CB} = 30\text{V}, T = 25^\circ\text{C}$ $T = 150^\circ\text{C}$			15 4000	nA
h_{FE}	DC Current Gain	$V_{CE} = 5\text{V}, I_C = 2\text{mA}$	220		475	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 10\text{mA}, I_B = 0.5\text{mA}$ $I_C = 100\text{mA}, I_B = 5\text{mA}$			0.3 0.65	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE} = 5\text{V}, I_C = 2\text{mA}$ $V_{CE} = 5\text{V}, I_C = 10\text{mA}$	0.6		0.75 0.82	V

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



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