FAIRCHILD
SEMICONDUCTOR TM

FPN630
FPN630A

TO-226

PNP Low Saturation Transistor

These devices are designed for high current gain and low saturation voltage with collector currents up to 3.0 A continuous. Sourced from Process PC.

Absolute Maximum Ratings* TA = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	30	V
V_{CBO}	Collector-Base Voltage	35	V
V_{EBO}	Emitter-Base Voltage	5.0	V
I_C	Collector Current - Continuous	3.0	A
T_J, T_{stg}	Operating and Storage Junction Temperature Range	-55 to +150	°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 TA = 25°C unless otherwise noted

Symbol	Characteristic	Max	Units
		FPN630 / FPN630A	
P_D	Total Device Dissipation	1.0	W
$R_{\theta JC}$	Thermal Resistance, Junction to Case	50	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	125	°C/W

PNP Low Saturation Transistor
(continued)

Electrical Characteristics
TA = 25°C unless otherwise noted

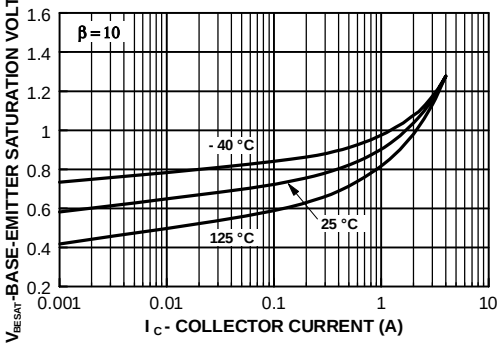
Symbol	Parameter	Test Conditions		Min	Max	Units
OFF CHARACTERISTICS						
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 10 mA, I_B = 0		30		V
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = 100 μA, I_E = 0		35		V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 100 μA, I_C = 0		5.0		V
I_{CBO}	Collector Cutoff Current	V_{CB} = 30 V, I_E = 0 V_{CB} = 30 V, I_E = 0, T_A = 100°C			100 10	nA μA
I_{EBO}	Emitter Cutoff Current	V_{EB} = 4.0 V, I_C = 0			100	nA
ON CHARACTERISTICS*						
h_{FE}	DC Current Gain	I_C = 100 mA, V_{CE} = 2.0 V	**630** **630A**	100 250		
		I_C = 1.0 A, V_{CE} = 2.0 V		60		
		I_C = 2.0 A, V_{CE} = 2.0 V		40		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C = 1.0 A, I_B = 100 mA	**630** **630A**		300 250	mV mV
		I_C = 2.0 A, I_B = 200 mA			500	mV
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C = 1.0 A, I_B = 100 mA			1.25	V
$V_{BE(on)}$	Base-Emitter Saturation Voltage	I_C = 1.0 A, V_{CE} = 2.0 V			1.0	V
SMALL SIGNAL CHARACTERISTICS						
C_{obo}	Output Capacitance	V_{CB} = 10 V, I_E = 0, f = 1.0 MHz			100	pF
F_T	Transition Frequency	I_C = 100 mA, V_{CE} = 5.0 V, f = 100 MHz		100		MHz

*Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%

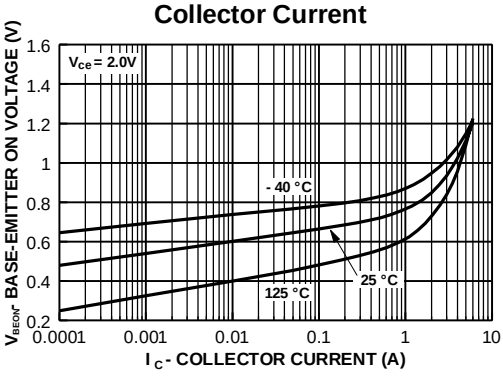
NOTE: All voltages (V) and currents (A) are negative polarity for PNP transistors.

Typical Characteristics

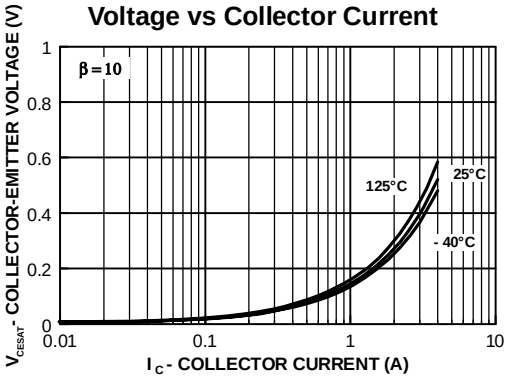
Base-Emitter Saturation Voltage vs Collector Current



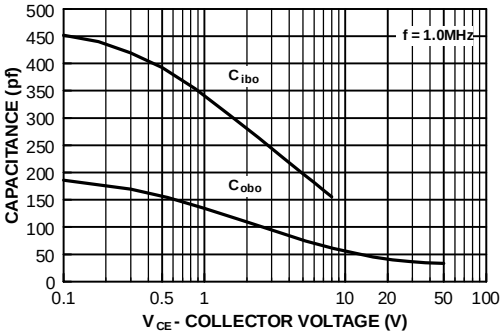
Base-Emitter On Voltage vs Collector Current



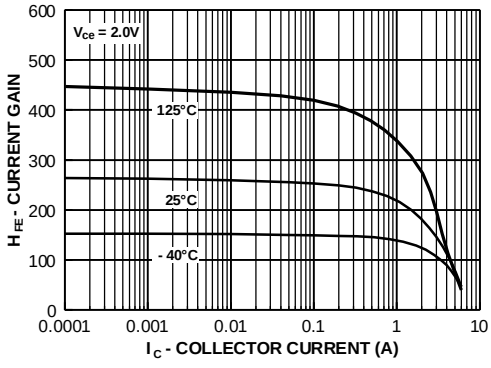
Collector-Emitter Saturation Voltage vs Collector Current



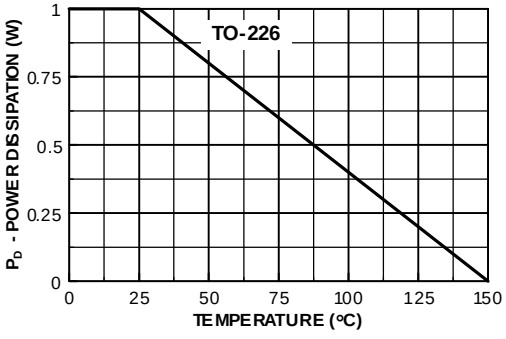
Input/Output Capacitance vs Reverse Bias Voltage



Current Gain vs Collector Current



Power Dissipation vs Ambient Temperature



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