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FAIRCHILD SEMICONDUCTOR®

FPN660/FPN660A

PNP Low Saturation Transistor

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

TO-226

Absolute Maximum Ratings T_A=25°C unless otherwise noted

Symbol	Parameter	FPN660	FPN660A	Units
V_{CEO}	Collector-Emitter Voltage	60	60	V
V_{CBO}	Collector-Base Voltage	80	60	V
V_{EBO}	Emitter-Base Voltage	5	5	V
I_C	Collector Current - Continuous	3	3	A
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 ~ +150	-55 ~ +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°C.
2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
3) All voltage (V) and currents (A) are negative polarity for PNP transistors

Electrical Characteristics T_A=25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
Off Characteristics						
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 10mA, I_B = 0	55			V
BV_{CBO}	Collector-Base Breakdown Voltage	I_E = 100µA, I_E = 0 FPN660 FPN660A	80 60			V V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 100µA, I_C = 0	5.0			V
I_{CBO}	Collector-Base Cutoff Current	V_{CB} = 30V, I_E = 0 V_{CB} = 30V, I_E = 0, T_A = 100°C			100 10	nA µA
I_{EBO}	Emitter-Base Cutoff Current	V_{EB} = 4.0V, I_C = 0			100	nA
On Characteristics *						
h_{FE}	DC Current Gain	I_C = 100mA, V_{CE} = 2.0V I_C = 500mA, V_{CE} = 2.0V FPN660 FPN660A I_C = 1.0A, V_{CE} = 2.0V I_C = 2.0A, V_{CE} = 2.0V	70 100 250 80 40		 300 550	
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 1.0A, I_B = 100mA I_C = 2.0A, I_B = 200mA FPN660 FPN660A			300 450 400	mV mV mV
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = 1.0A, I_B = 100mA			1.25	V
V_{BE}(on)	Base-Emitter On Voltage	I_C = 1.0A, V_{CE} = 2.0V			1.0	V
Small Signal Characteristics						
C_{obo}	Output Capacitance	V_{CB} = 10V, I_E = 0, f = 1MHz			45	pF
f_T	Transition Frequency	I_C = 100mA, V_{CE} = 5.0V, f = 100MHz	75			MHz

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

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

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Thermal Characteristics T_A=25°C unless otherwise noted

Symbol	Parameter	Max.	Units
		FPN660/FPN660A	
P_D	Total Device Dissipation	1	W
$R_{\theta JC}$	Thermal Resistance, Junction to Case	50	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	125	°C/W

Typical Characteristics

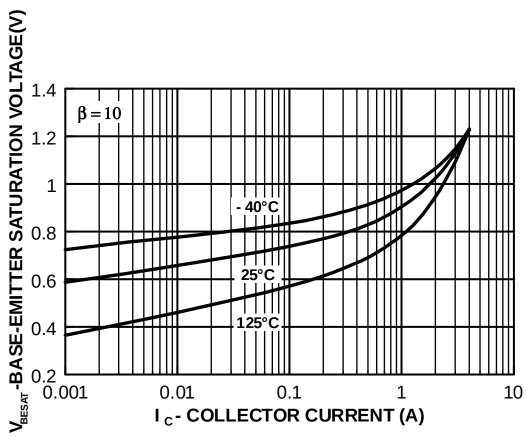

Figure 1. Base-Emitter Saturation Voltage vs Collector Current

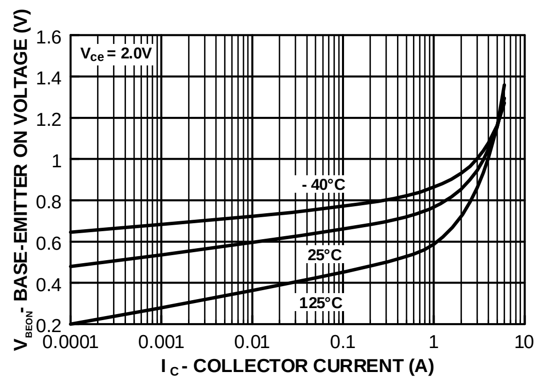

Figure 2. Base-Emitter On Voltag vs Collector Current

Collector-Emitter Saturation

Input/Output Capacitance vs

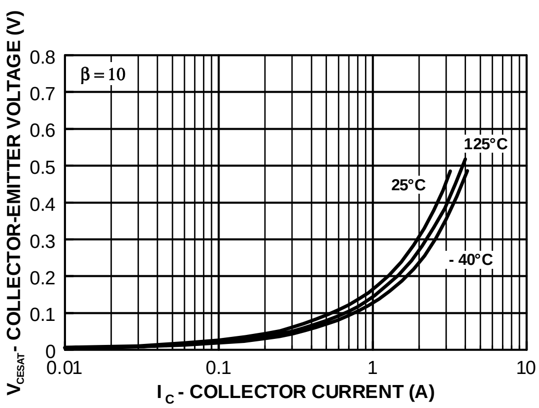

Figure 3. Collector-Emitter Saturation Voltage vs Collector Current

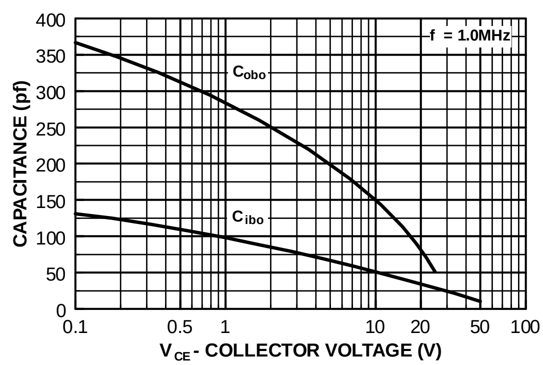

Figure 4. Input/Output Capacitance vs Reverse Bias Voltage

Current Gain vs Collector Current

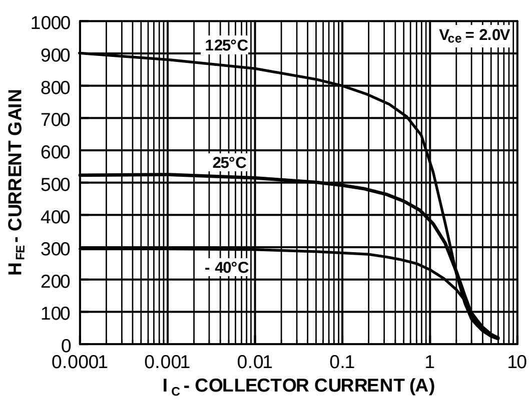

Figure 5. Current Gain vs Collector Current

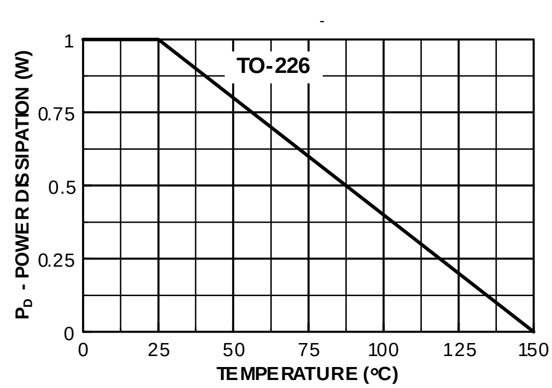

Figure 6. Power Dissipation vs Ambient Temperature

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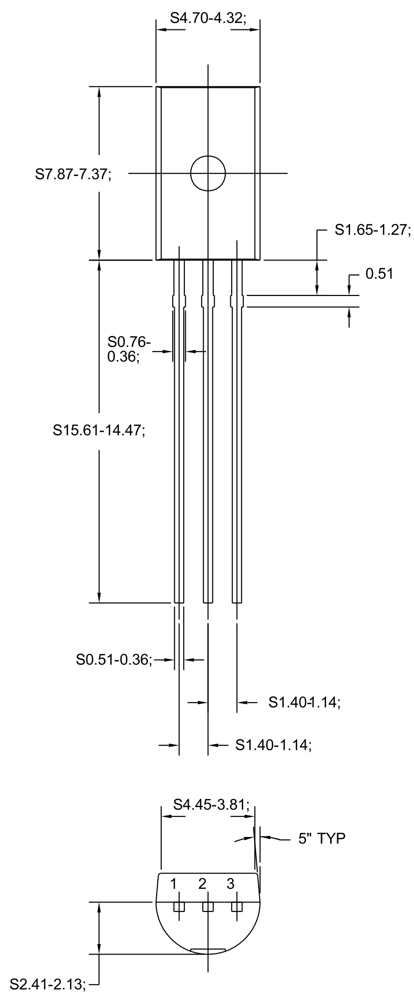
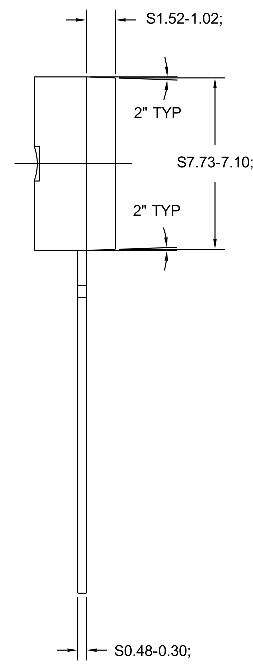
Package Dimensions

TO-226





PIN	99	95
1	E	E
2	B	C
3	C	B

TO-226AE (95,99)

For leadformed option ordering,
refer to Tape & Reel data information.

Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
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E^2CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I^2C™	OCX™	RapidConfigure™	UHC™
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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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