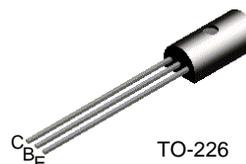


FPN660/FPN660A

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 $T_A=25^\circ\text{C}$ 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	$^\circ\text{C}$

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

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

* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$

NOTE: All voltage (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
		FPN660/FPN660A	
P_D	Total Device Dissipation	1	W
$R_{\theta JC}$	Thermal Resistance, Junction to Case	50	$^{\circ}\text{C}/\text{W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	125	$^{\circ}\text{C}/\text{W}$

Typical Characteristics

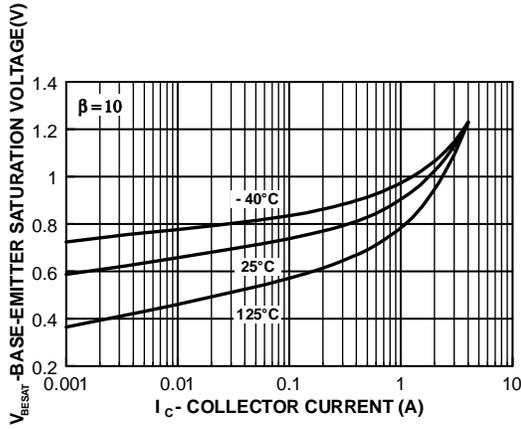


Figure 1. Base-Emitter Saturation Voltage vs Collector Current
Collector-Emitter Saturation

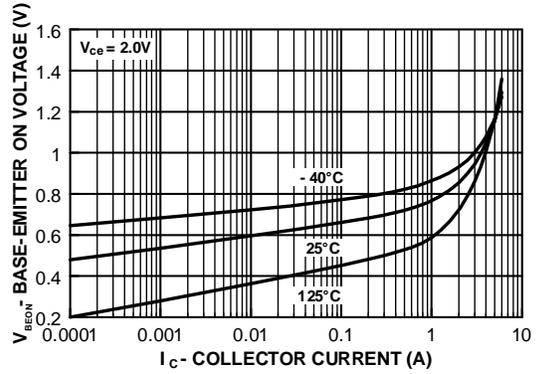


Figure 2. Base-Emitter On Voltage vs Collector Current

Input/Output Capacitance vs

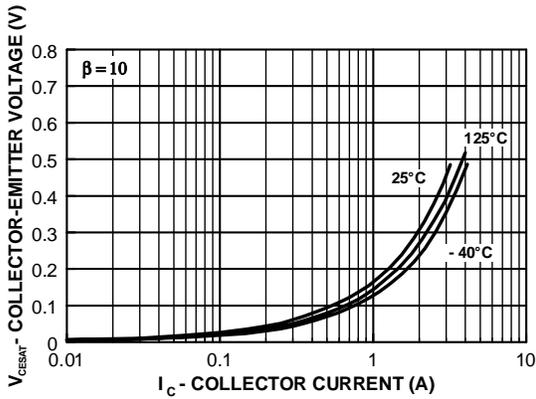


Figure 3. Collector-Emitter Saturation Voltage vs Collector Current

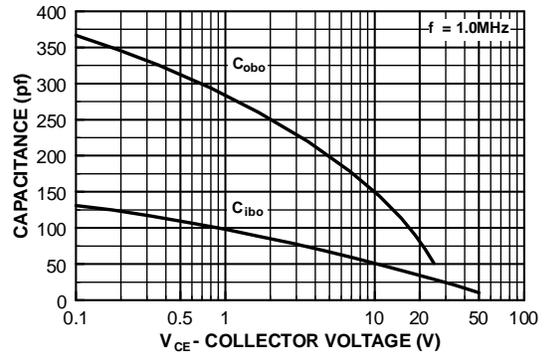


Figure 4. Input/Output Capacitance vs Reverse Bias Voltage

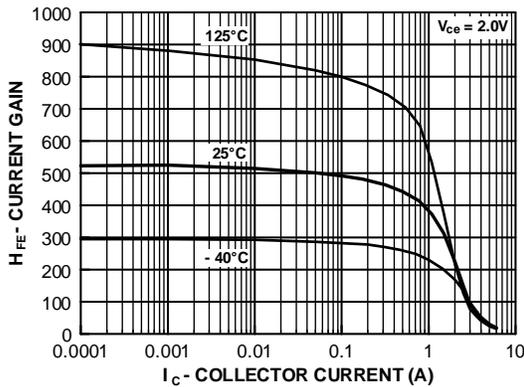


Figure 5. Current Gain vs Collector Current

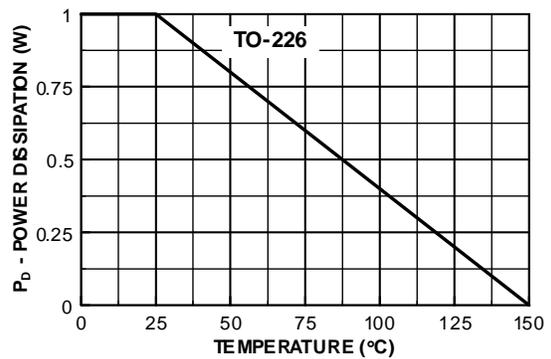
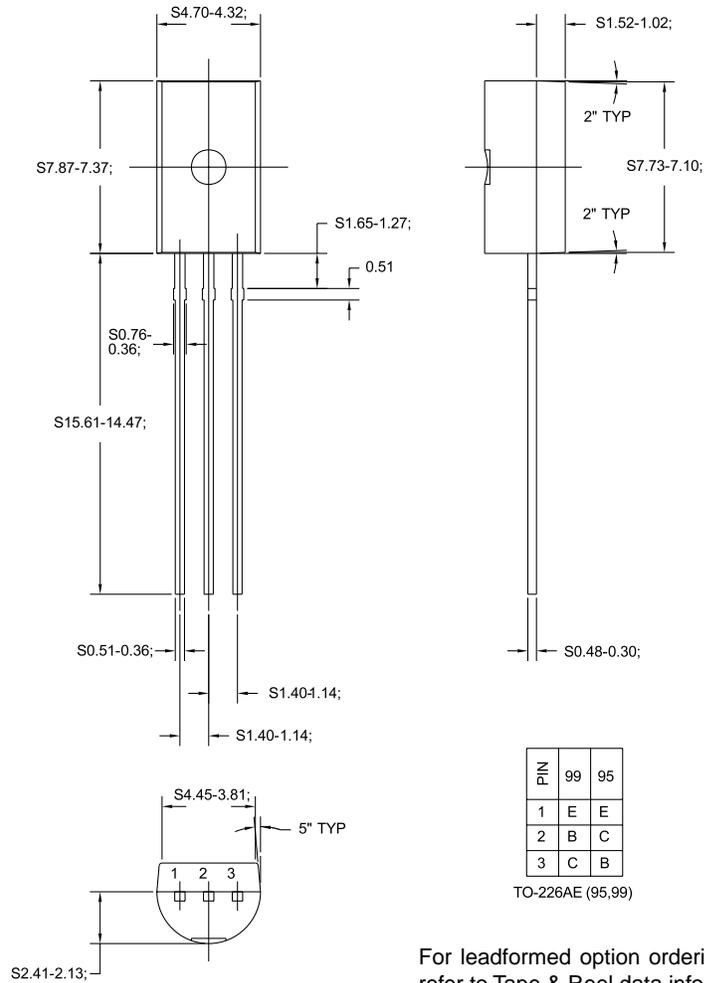


Figure 6. Power Dissipation vs Ambient Temperature

Package Dimensions

TO-226

FPN660/FPN660A



Dimensions in Millimeters

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