TIP147FTU Datasheet

https://www.DiGi-Electronics.com

DiGi Electronics Part Number	TIP147FTU-DG
Manufacturer	onsemi
Manufacturer Product Number	TIP147FTU
Description	TRANS PNP DARL 100V 10A TO3PF
Detailed Description	Bipolar (BJT) Transistor PNP - Darlington 100 V 10 A 125 W Through Hole TO-3PF

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
TIP147FTU	onsemi
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
PNP - Darlington	10 A
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
100 V	3V @ 40mA, 10A
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
2mA	1000 @ 5A, 4V
Power - Max:	Frequency - Transition:
125 W	-
Operating Temperature:	Mounting Type:
150°C (TJ)	Through Hole
Package / Case:	Supplier Device Package:
TO-3P-3 Full Pack	TO-3PF
Base Product Number:	
TIP147	

Environmental & Export classification

RoHS Status:	Moisture Sensitivity Level (MSL):
ROHS3 Compliant	Not Applicable
REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.29.0095	

Is Now Part of

ON Semiconductor®

To learn more about ON Semiconductor, please visit our website at
www.onsemi.com

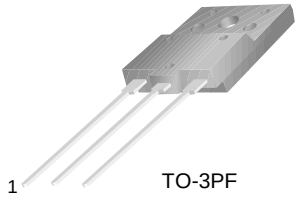
Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

FAIRCHILD SEMICONDUCTOR®

TIP145F/146F/147F

Monolithic Construction With Built In Base-Emitter Shunt Resistors

- High DC Current Gain : h_{FE} = 1000 @ V_{CE} = -4V, I_C = -5A (Min.)
- Industrial Use
- Complement to TIP140F/141F/142F



TO-3PF

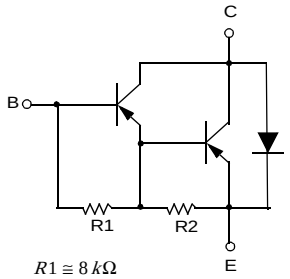
1.Base 2.Collector 3.Emitter

PNP Epitaxial Darlington Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Emitter Voltage : TIP145F	- 60	V
	: TIP146F	- 80	V
	: TIP147F	- 100	V
V_{CEO}	Collector-Emitter Voltage : TIP145F	- 60	V
	: TIP146F	- 80	V
	: TIP147F	- 100	V
V_{EBO}	Emitter-Base Voltage	- 5	V
I_C	Collector Current (DC)	- 10	A
I_{CP}	Collector Current (Pulse)	- 15	A
I_B	Base Current (DC)	- 0.5	A
P_C	Collector Dissipation (T_C=25°C)	60	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 65 ~ 150	°C

Equivalent Circuit



$R1 \cong 8\,k\Omega$
$R2 \cong 0.12\,k\Omega$

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
V_{CEO}(sus)	Collector-Emitter Sustaining Voltage					
	: TIP145F	I_C = - 30mA, I_B = 0	- 60			V
	: TIP146F		- 80			V
	: TIP147F		- 100			V
I_{CEO}	Collector Cut-off Current					
	: TIP145F	V_{CE} = - 30V, I_B = 0			- 2	mA
	: TIP146F	V_{CE} = - 40V, I_B = 0			- 2	mA
	: TIP147F	V_{CE} = - 50V, I_B = 0			- 2	mA
I_{CBO}	Collector Cut-off Current					
	: TIP145F	V_{CB} = - 60V, I_E = 0			- 1	mA
	: TIP146F	V_{CB} = - 80V, I_E = 0			- 1	mA
	: TIP147F	V_{CB} = - 100V, I_E = 0			- 1	mA
I_{EBO}	Emitter Cut-off Current	V_{BE} = - 5V, I_C = 0			- 2	mA
h_{FE}	DC Current Gain	V_{CE} = - 4V, I_C = - 5A	1000			
		V_{CE} = - 4V, I_C = - 10A	500			
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = - 5A, I_B = - 10mA			- 2	V
		I_C = - 10A, I_B = - 40mA			- 3	V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = - 10A, I_B = - 40mA			- 3.5	V
V_{BE}(on)	Base-Emitter On Voltage	V_{CE} = - 4V, I_C = - 10A			- 3	V
t_D	Delay Time	V_{CC} = - 30V, I_C = - 5A		0.15		µs
t_R	Rise Time	I_{B1} = -20mA, I_{B2} = 20mA		0.55		µs
t_{STG}	Storage Time	R_L = 6Ω		2.5		µs
t_f	Fall Time			2.5		µs

Typical Characteristics

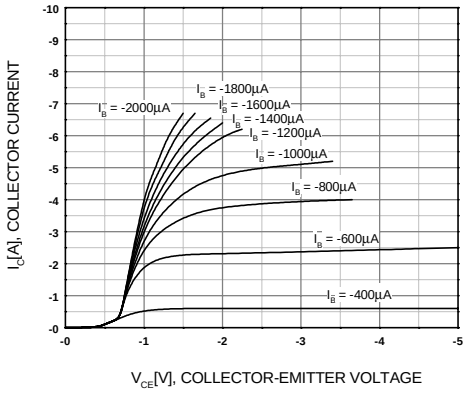


Figure 1. Static Characteristic

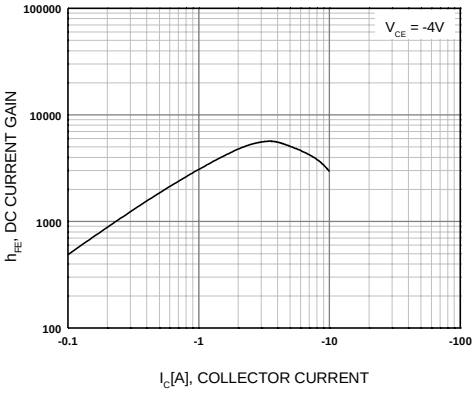


Figure 2. DC current Gain

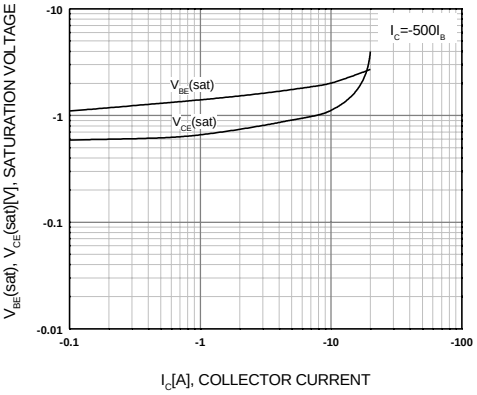


Figure 3. Collector-Emitter Saturation Voltage Base-Emitter Saturation Voltage

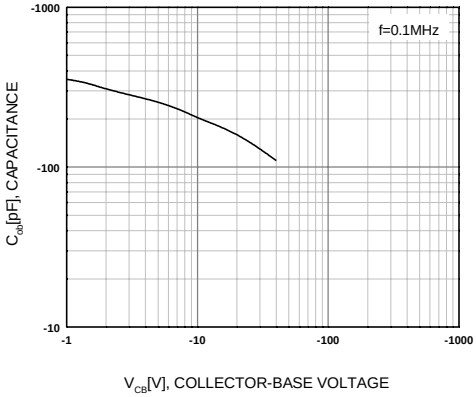


Figure 4. Collector Output Capacitance

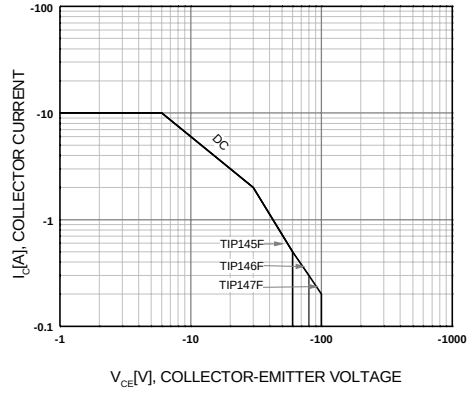


Figure 5. Safe Operating Area

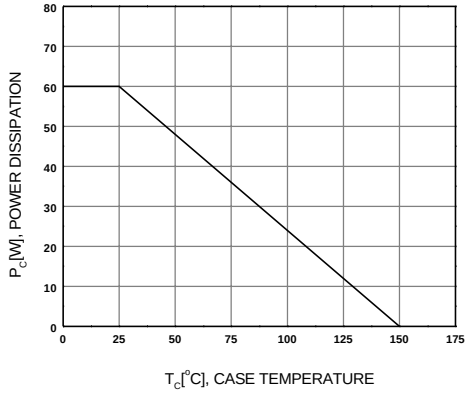
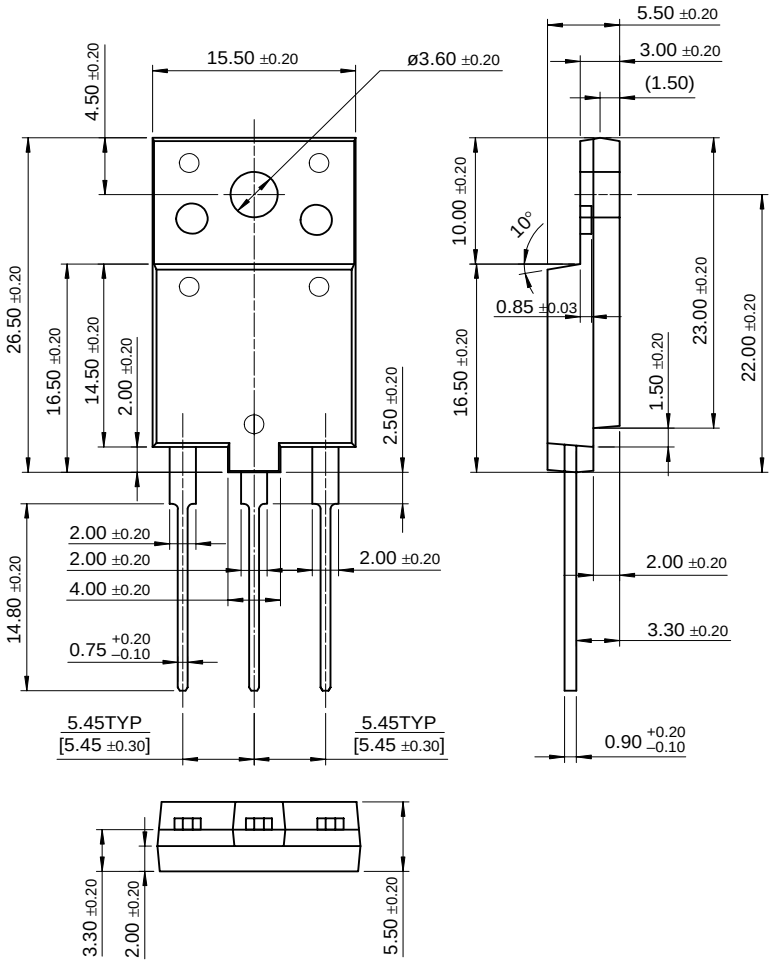


Figure 6. Power Derating

Package Dimensions

TO-3PF



Dimensions in Millimeters

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Definition of Terms

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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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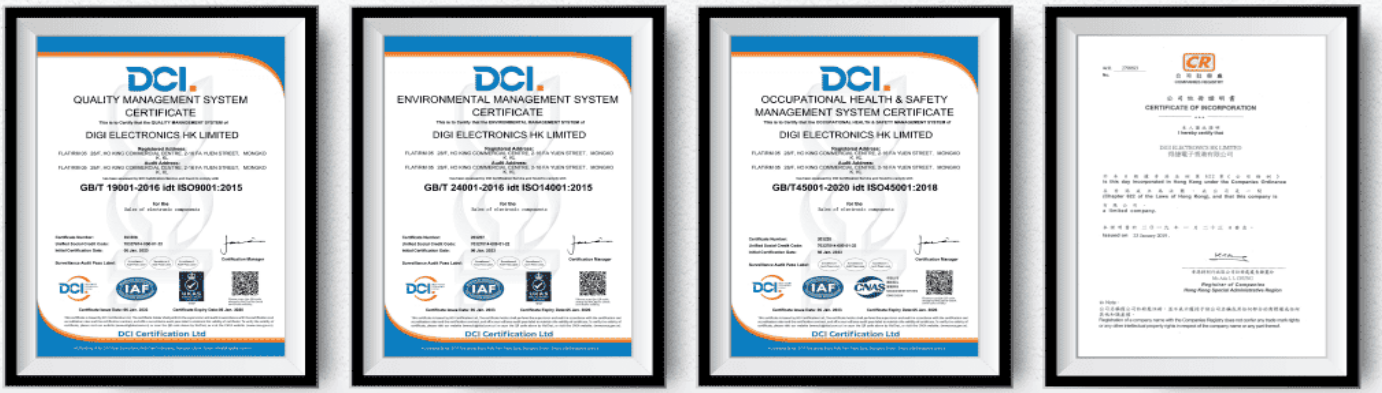

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