BD17610STU Datasheet

DiGi Electronics Part Number	BD17610STU-DG
Manufacturer	onsemi
Manufacturer Product Number	BD17610STU
Description	TRANS PNP 45V 3A TO126-3
Detailed Description	Bipolar (BJT) Transistor PNP 45 V 3 A 3MHz 30 W Through Hole TO-126-3

https://www.DiGi-Electronics.com

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RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
BD17610STU	onsemi
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
PNP	3 A
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
45 V	800mV @ 100mA, 1A
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
100µA (ICBO)	63 @ 150mA, 2V
Power - Max:	Frequency - Transition:
30 W	3MHz
Operating Temperature:	Mounting Type:
150°C (TJ)	Through Hole
Package / Case:	Supplier Device Package:
TO-225AA, TO-126-3	TO-126-3
Base Product Number:	
BD176	

Environmental & Export classification

Moisture Sensitivity Level (MSL):	REACH Status:
1 (Unlimited)	REACH Unaffected
ECCN:	HTSUS:
EAR99	8541.29.0095

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ON Semiconductor®

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

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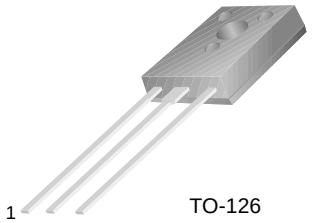
BD176/178/180

Medium Power Linear and Switching Applications

- Complement to BD 175/177/179 respectively



TO-126

1. Emitter 2.Collector 3.Base

PNP Epitaxial Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter		Value	Units
V_{CBO}	*Collector-Base Voltage	: BD176	- 45	V
		: BD178	- 60	V
		: BD180	- 80	V
V_{CEO}	Collector-Emitter Voltage	: BD176	- 45	V
		: BD178	- 60	V
		: BD180	- 80	V
V_{EBO}	Emitter-Base Voltage		- 5	V
I_C	Collector Current (DC)		- 3	A
I_C	*Collector Current (Pulse)		- 7	A
P_C	Collector Dissipation (T_C=25°C)		30	W
$R_{\theta ja}$	Junction to Ambient		70	°C/W
$R_{\theta jc}$	Junction to Case		8.5	°C/W
T_J	Junction Temperature		150	°C
T_{STG}	Storage Temperature		- 65 ~ 150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
V_{CEO}(sus)	* Collector-Emitter Sustaining Voltage					
	: BD176	I_C = - 100mA, I_B = 0	- 45			V
	: BD178		- 60			V
	: BD180		- 80			V
I_{CBO}	Collector Cut-off Current : BD176	V_{CB} = - 45V, I_E = 0			- 100	µA
	: BD178	V_{CB} = - 60V, I_E = 0			- 100	µA
	: BD180	V_{CB} = - 80V, I_E = 0			- 100	µA
I_{EBO}	Emitter Cut-off Current	V_{EB} = - 5V, I_C = 0			- 1	mA
h_{FE1}	* DC Current Gain	V_{CE} = - 2V, I_C = - 150mA	40		250	
h_{FE2}		V_{CE} = - 2V, I_C = - 1A	15			
V_{CE}(sat)	* Collector-Emitter Saturation Voltage	I_C = -1 A , I_B = - 0.1A			- 0.8	V
V_{BE}(on)	* Base-Emitter On Voltage	V_{CE} = - 2V, I_C = -1 A			- 1.3	V
f_T	Current Gain Bandwidth Product	V_{CE} = -10V, I_C = - 250mA	3			MHz

* Pulse Test: PW=300µs, duty Cycle=1.5% Pulsed

h_{FE} Classificntion

Classification	6	10	16
h_{FE1}	40 ~ 100	63 ~ 160	100 ~ 250

* Classification 16: Only BD 176

Typical Characteristics

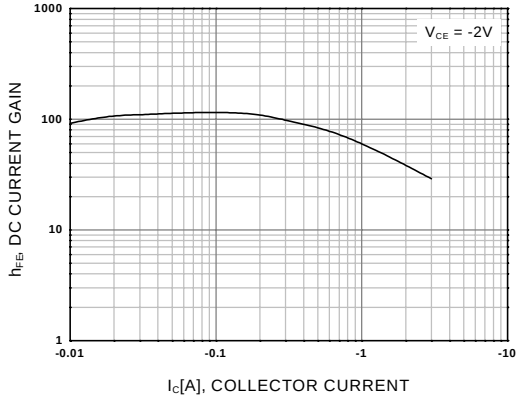


Figure 1. DC current Gain

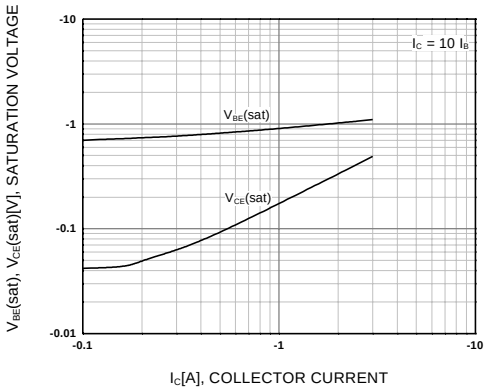


Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

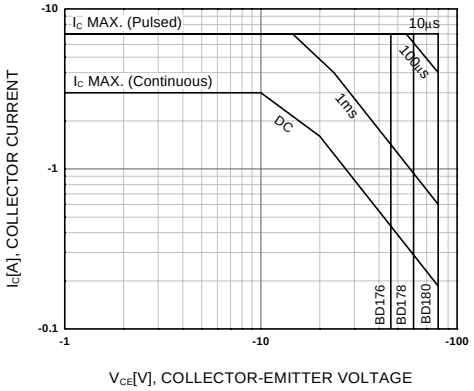


Figure 3. Safe Operating Area

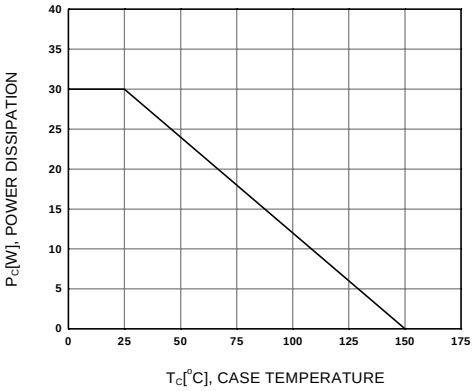
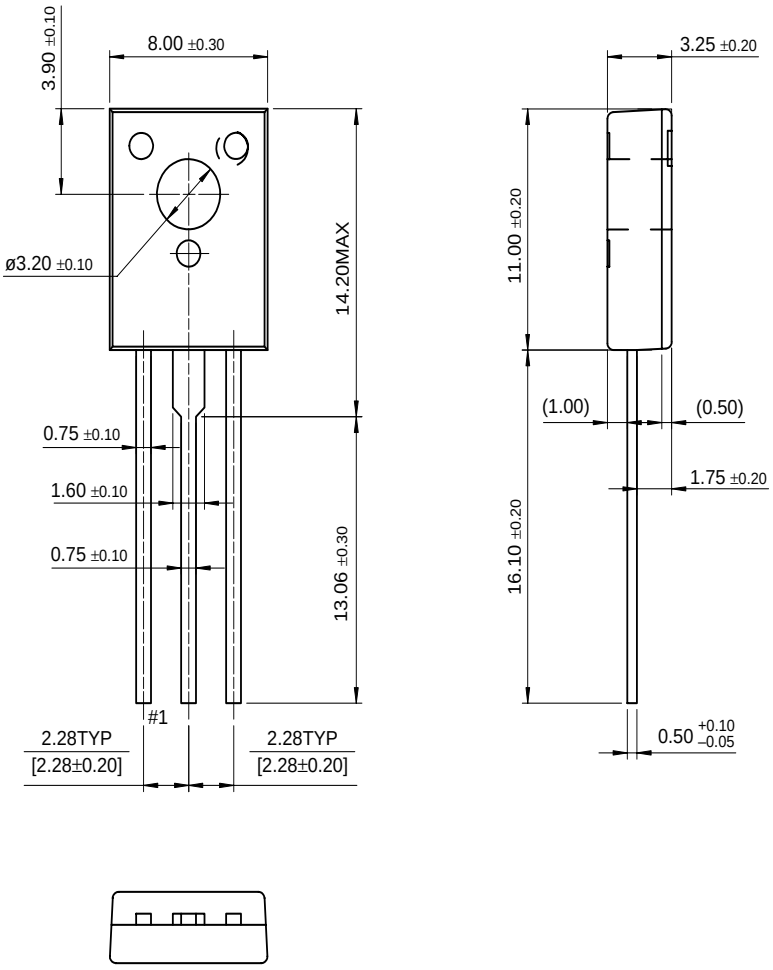


Figure 4. Power Derating

Package Dimensions

TO-126



Dimensions in Millimeters

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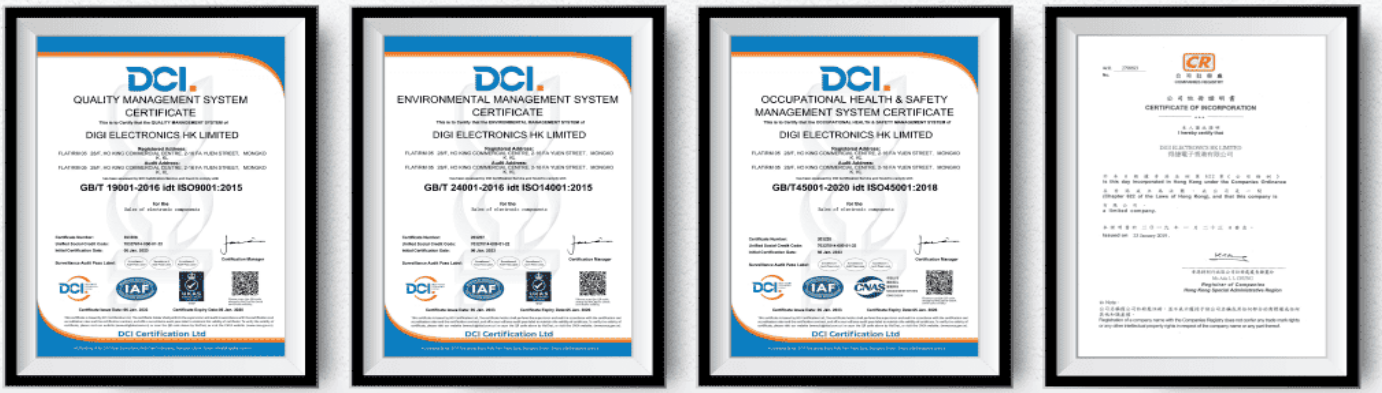

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