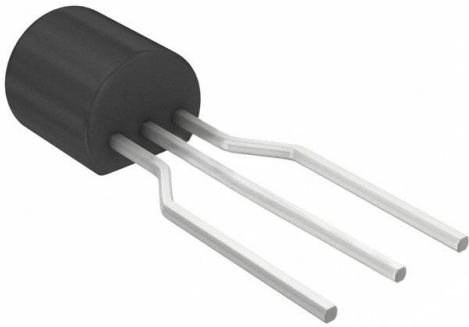


BF423ZL1G Datasheet

www.digi-electronics.com



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	BF423ZL1G-DG
Manufacturer	onsemi
Manufacturer Product Number	BF423ZL1G
Description	TRANS PNP 250V 0.5A TO92
Detailed Description	Bipolar (BJT) Transistor PNP 250 V 500 mA 60MHz 8 30 mW Through Hole TO-92 (TO-226)



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

BF423ZL1G

Series:

-

Transistor Type:

PNP

Voltage - Collector Emitter Breakdown (Max):

250 V

Current - Collector Cutoff (Max):

10nA (ICBO)

Power - Max:

830 mW

Operating Temperature:

-55°C ~ 150°C (TJ)

Package / Case:

TO-226-3, TO-92-3 Long Body (Formed Leads)

Base Product Number:

BF423

Manufacturer:

onsemi

Product Status:

Obsolete

Current - Collector (Ic) (Max):

500 mA

Vce Saturation (Max) @ Ib, Ic:

500mV @ 2mA, 20mA

DC Current Gain (hFE) (Min) @ Ic, Vce:

50 @ 25mA, 20V

Frequency - Transition:

60MHz

Mounting Type:

Through Hole

Supplier Device Package:

TO-92 (TO-226)

Environmental & Export classification

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

REACH Status:

REACH Unaffected

HTSUS:

8541.21.0095

ON Semiconductor

Is Now

The logo for onsemi, featuring the word "onsemi" in a dark teal, lowercase, sans-serif font. The letter "i" is stylized with a white dot and a teal vertical bar. A small orange triangle is positioned above the top right of the "i". A trademark symbol (TM) is located to the right of the logo.

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

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BF421, BF423

High Voltage Transistors

PNP Silicon

Features

- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

MAXIMUM RATINGS

Rating	Symbol	BF421	BF423	Unit
Collector–Emitter Voltage	V_{CEO}	–300	–250	Vdc
Collector–Base Voltage	V_{CBO}	–300	–250	Vdc
Emitter–Base Voltage	V_{EBO}	–5.0		Vdc
Collector Current – Continuous	I_C	–500		mAdc
Collector Current – Peak	I_{CM}	100		mA
Total Device Dissipation (Note 1) @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	830 6.6		mW mW/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	–55 to +150		°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction–to–Ambient	$R_{\theta JA}$	150	°C/W
Thermal Resistance, Junction–to–Lead	$R_{\theta JL}$	68	°C/W

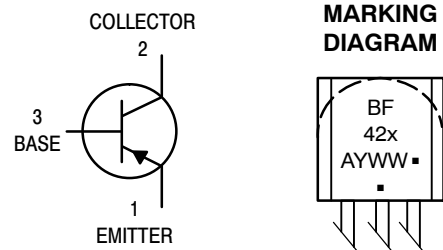
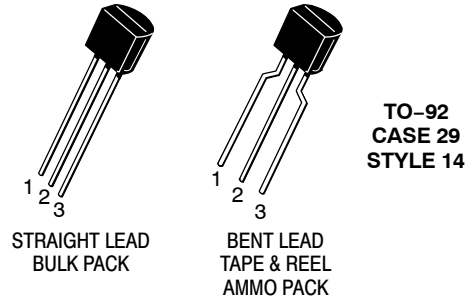
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1. Mounted on a FR4 board with 200 mm² of 1 oz copper and lead length of 5 mm.



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<http://onsemi.com>



BF42x = Device Code
x = 1 or 3

A = Assembly Location
Y = Year
WW = Work Week
■ = Pb-Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping
BF421ZL1G	TO-92 (Pb-Free)	2000/Ammo Pack
BF423G	TO-92 (Pb-Free)	5000 Units/Box
BF423ZL1G	TO-92 (Pb-Free)	2000/Ammo Pack

*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

BF421, BF423**ELECTRICAL CHARACTERISTICS** ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector–Emitter Breakdown Voltage (Note 1) ($I_C = -1.0\text{ mAdc}$, $I_B = 0$)	BF421 BF423	$V_{(BR)CEO}$	-300 -250	- -	Vdc
Collector–Base Breakdown Voltage ($I_C = -100\ \mu\text{Adc}$, $I_E = 0$)	BF421 BF423	$V_{(BR)CBO}$	-300 -250	- -	Vdc
Emitter–Base Breakdown Voltage ($I_E = -100\ \mu\text{Adc}$, $I_C = 0$)	BF421 BF423	$V_{(BR)EBO}$	-5.0 -5.0	- -	Vdc
Collector Cutoff Current ($V_{CB} = -200\text{ Vdc}$, $I_E = 0$)	BF421 BF423	I_{CBO}	- -	-0.01 -	μAdc
Emitter Cutoff Current ($V_{EB} = -5.0\text{ Vdc}$, $I_C = 0$)	BF421 BF423	I_{EBO}	- -	-100 -	nAdc

ON CHARACTERISTICS

DC Current Gain ($I_C = -25\text{ mA}$, $V_{CE} = -20\text{ Vdc}$)	BF421 BF423	h_{FE}	50 50	- -	-
Collector–Emitter Saturation Voltage ($I_C = -20\text{ mAdc}$, $I_B = -2.0\text{ mAdc}$)		$V_{CE(sat)}$	-	-0.5	Vdc
Base–Emitter Saturation Voltage ($I_C = -20\text{ mA}$, $I_B = -2.0\text{ mA}$)		$V_{BE(sat)}$	-	-2.0	Vdc

SMALL-SIGNAL CHARACTERISTICS

Current–Gain – Bandwidth Product ($I_C = -10\text{ mAdc}$, $V_{CE} = -10\text{ Vdc}$, $f = 20\text{ MHz}$)		f_T	60	-	MHz
Common Emitter Feedback Capacitance ($V_{CB} = -30\text{ Vdc}$, $I_E = 0$, $f = 1.0\text{ MHz}$)		C_{re}	-	2.8	pF

1. Pulse Test: Pulse Width $\leq 300\ \mu\text{s}$; Duty Cycle $\leq 2.0\%$.

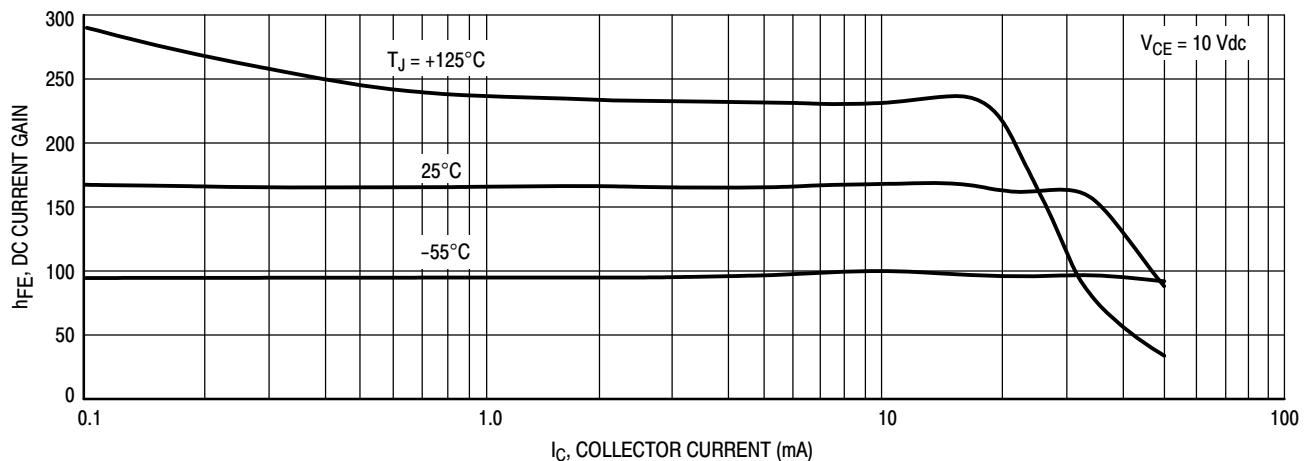


Figure 1. DC Current Gain

BF421, BF423

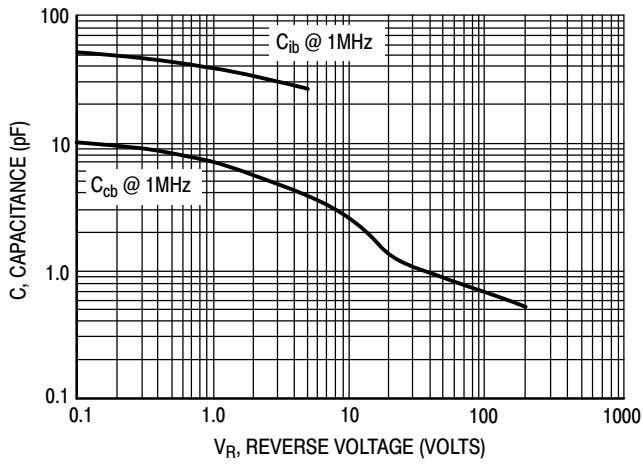


Figure 2. Capacitance

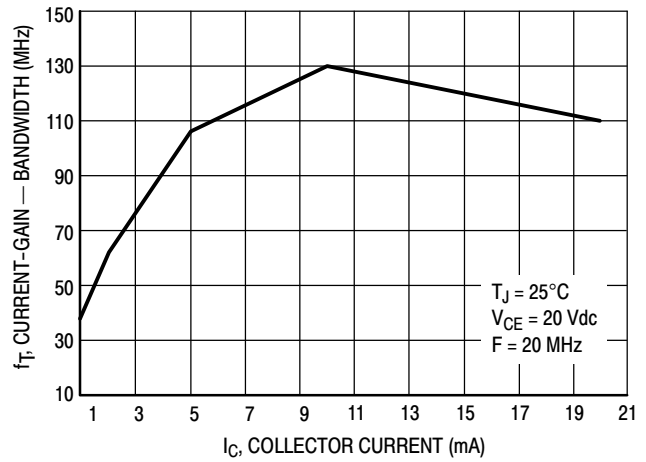


Figure 3. Current-Gain - Bandwidth

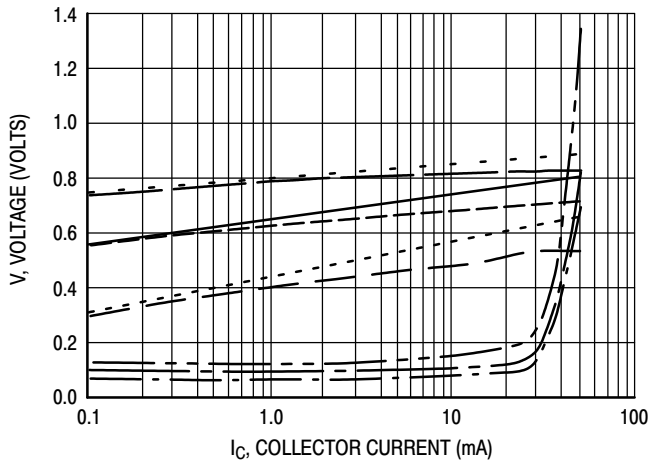


Figure 4. "ON" Voltages

- V_{CE(sat)} @ 25°C, I_C/I_B = 10
- V_{CE(sat)} @ 125°C, I_C/I_B = 10
- V_{CE(sat)} @ -55°C, I_C/I_B = 10
- V_{BE(sat)} @ 25°C, I_C/I_B = 10
- V_{BE(sat)} @ 125°C, I_C/I_B = 10
- V_{BE(sat)} @ -55°C, I_C/I_B = 10
- V_{BE(on)} @ 25°C, V_{CE} = 10 V
- V_{BE(on)} @ 125°C, V_{CE} = 10 V
- V_{BE(on)} @ -55°C, V_{CE} = 10 V

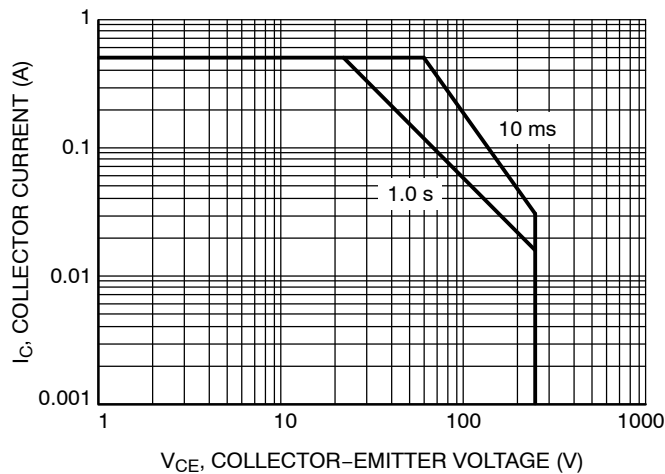
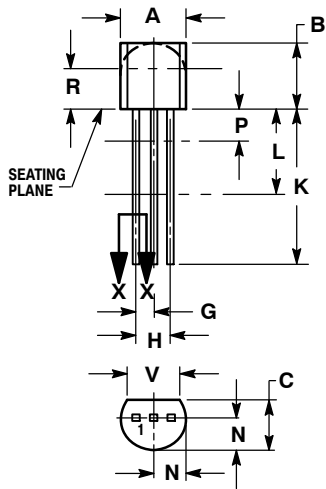


Figure 5. Safe Operating Area

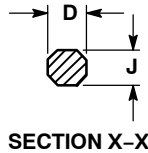
BF421, BF423

PACKAGE DIMENSIONS

TO-92 (TO-226)
CASE 029-11
ISSUE AM



STRAIGHT LEAD
BULK PACK



SECTION X-X

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.175	0.205	4.45	5.20
B	0.170	0.210	4.32	5.33
C	0.125	0.165	3.18	4.19
D	0.016	0.021	0.407	0.533
G	0.045	0.055	1.15	1.39
H	0.095	0.105	2.42	2.66
J	0.015	0.020	0.39	0.50
K	0.500	---	12.70	---
L	0.250	---	6.35	---
N	0.080	0.105	2.04	2.66
P	---	0.100	---	2.54
R	0.115	---	2.93	---
V	0.135	---	3.43	---

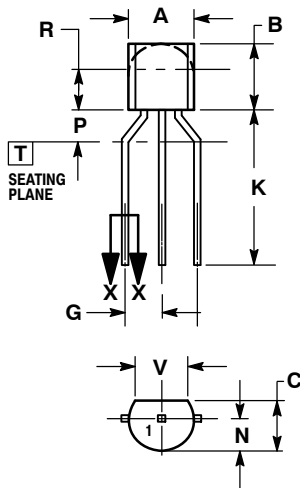
STYLE 14:

1. EMITTER
2. COLLECTOR
3. BASE

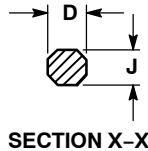
NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

DIM	MILLIMETERS	
	MIN	MAX
A	4.45	5.20
B	4.32	5.33
C	3.18	4.19
D	0.40	0.54
G	2.40	2.80
J	0.39	0.50
K	12.70	---
N	2.04	2.66
P	1.50	4.00
R	2.93	---
V	3.43	---



BENT LEAD
TAPE & REEL
AMMO PACK



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