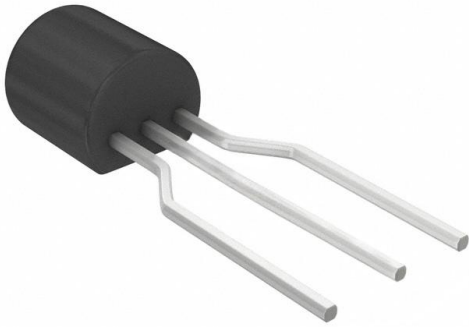


BC639-10-AP Datasheet

www.digi-electronics.com



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

DiGi Electronics Part Number	BC639-10-AP-DG
Manufacturer	Micro Commercial Co
Manufacturer Product Number	BC639-10-AP
Description	TRANS NPN 80V 1A TO92
Detailed Description	Bipolar (BJT) Transistor NPN 80 V 1 A 100MHz 1 W T hrough Hole TO-92



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:

BC639-10-AP

Series:

-

Transistor Type:

NPN

Voltage - Collector Emitter Breakdown (Max):

80 V

Current - Collector Cutoff (Max):

100nA (ICBO)

Power - Max:

1 W

Operating Temperature:

-55°C ~ 150°C (TJ)

Package / Case:

TO-226-3, TO-92-3 (TO-226AA) Formed Leads

Base Product Number:

BC639

Manufacturer:

Micro Commercial Co

Product Status:

Obsolete

Current - Collector (Ic) (Max):

1 A

Vce Saturation (Max) @ Ib, Ic:

500mV @ 50mA, 500mA

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

63 @ 150mA, 2V

Frequency - Transition:

100MHz

Mounting Type:

Through Hole

Supplier Device Package:

TO-92

Environmental & Export classification

RoHS Status:

RoHS Compliant

ECCN:

EAR99

Moisture Sensitivity Level (MSL):

1 (Unlimited)

HTSUS:

8541.29.0075

Features

- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

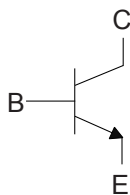
Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 125°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	80	V
Emitter-Base Voltage	V_{EBO}	5	V
Continuous Collector Current	I_C	1	A
Power Dissipation	P_D	1	W

Marking:BC639

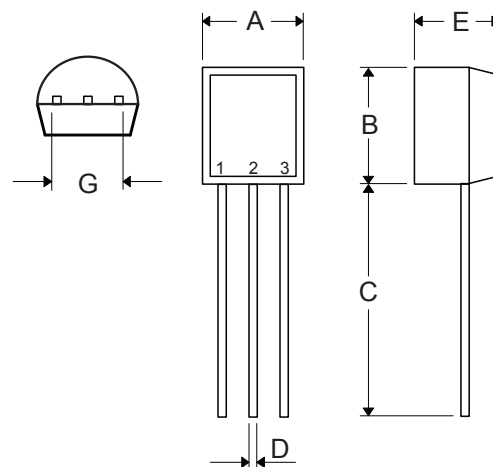
Internal Structure



1.EMITTER
2.COLLECTOR
3.BASE

NPN Epitaxial Silicon Transistors

TO-92



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.169	0.185	4.30	4.70	
B	0.169	0.185	4.30	4.70	
C	0.500	-----	12.70	-----	
D	0.015	0.022	0.38	0.55	
E	0.130	0.146	3.30	3.70	
G	0.095	0.105	2.42	2.67	Straight Lead
	0.173	0.220	4.40	5.60	Bent

Electrical Characteristics @ $T_A=25^\circ\text{C}$ Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	100			V	$I_C=100\mu\text{A}, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	80			V	$I_C=1\text{mA}, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5			V	$I_E=100\mu\text{A}, I_C=0$
Collector Cut-off Current	I_{CBO}			0.1	μA	$V_{CB}=30\text{V}, I_E=0$
Emitter Cut-off Current	I_{EBO}			0.1	μA	$V_{EB}=5\text{V}, I_C=0$
DC Current Gain	$h_{FE(1)}$	25				$V_{CE}=2\text{V}, I_C=5\text{mA}$
	BC639-10	63		160		$V_{CE}=2\text{V}, I_C=150\text{mA}$
	BC639-16	100		250		
	$h_{FE(3)}$	25				$V_{CE}=2\text{V}, I_C=500\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.5	V	$I_C=500\text{mA}, I_B=50\text{mA}$
Base-Emitter Voltage	V_{BE}			1	V	$V_{CE}=2\text{V}, I_C=500\text{mA}$
Transition Frequency	f_T	100			MHz	$V_{CE}=5\text{V}, I_C=50\text{mA}, f=100\text{MHz}$

Curve Characteristics

Fig. 1 - Static Characteristics

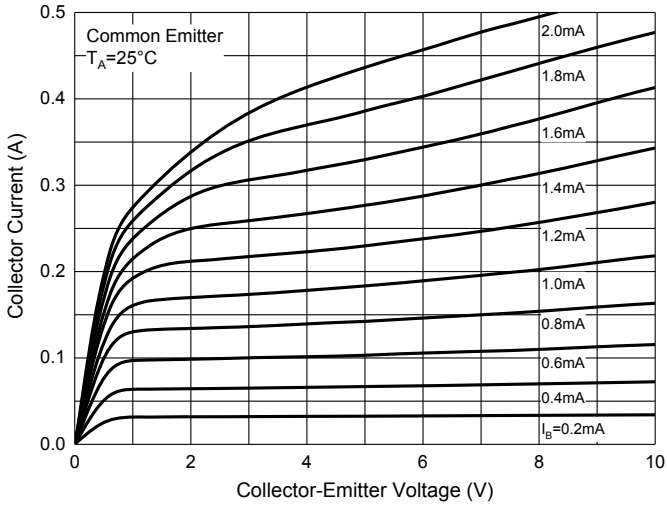


Fig. 2 - DC Current Gain Characteristics

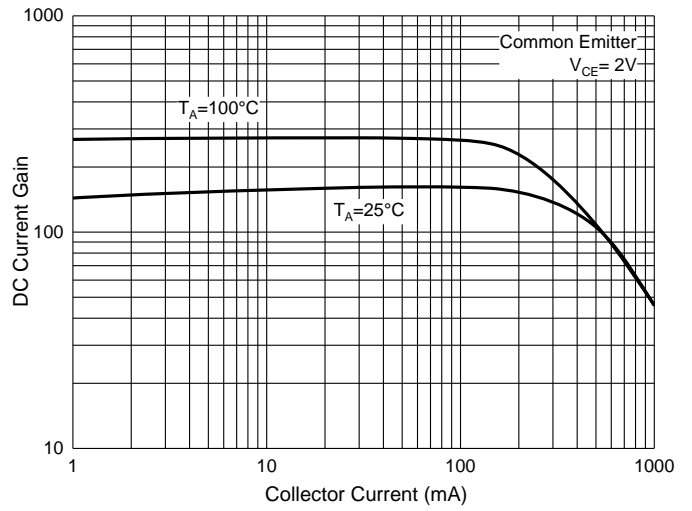


Fig. 3 - Base-Emitter Saturation Voltage Characteristics

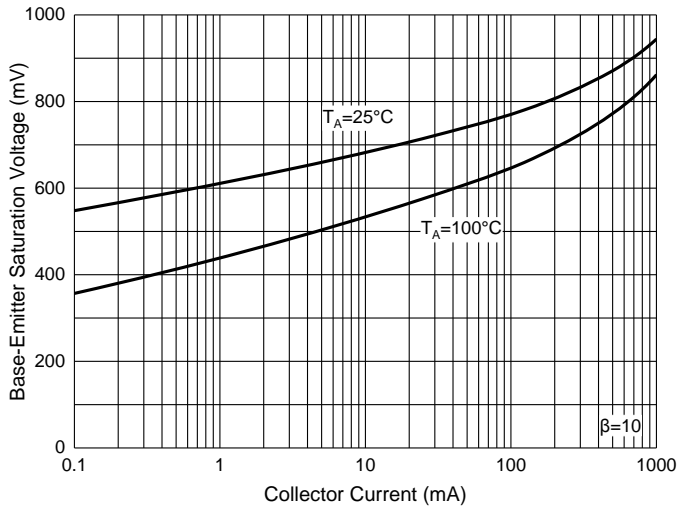


Fig. 4 - Collector-Emitter Saturation Voltage Characteristics

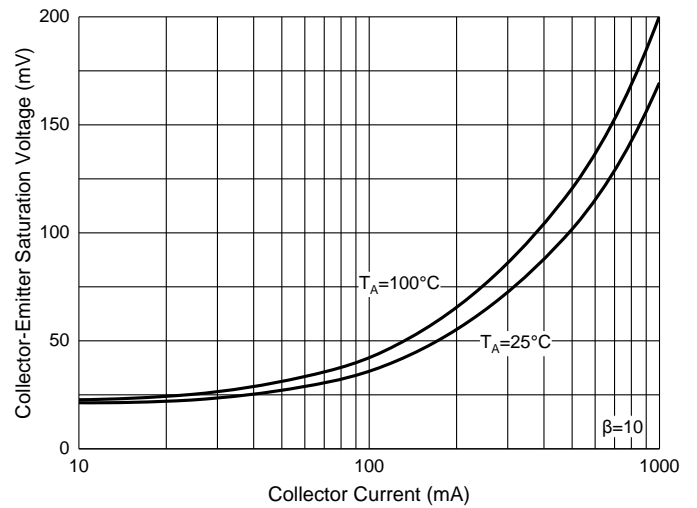


Fig. 5 - Base-Emitter Voltage Characteristics

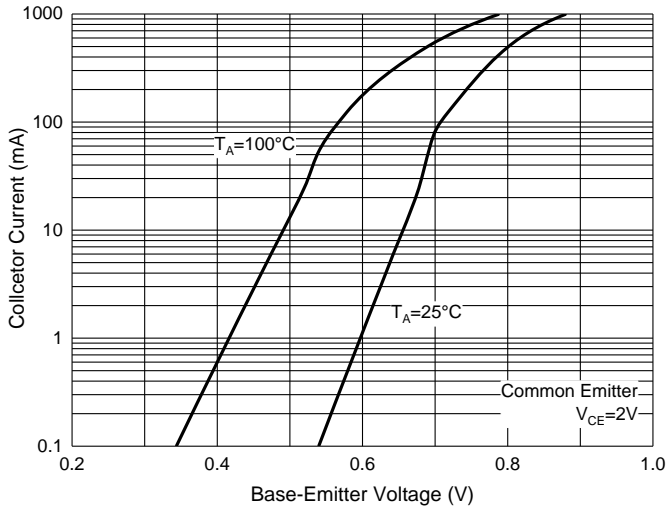
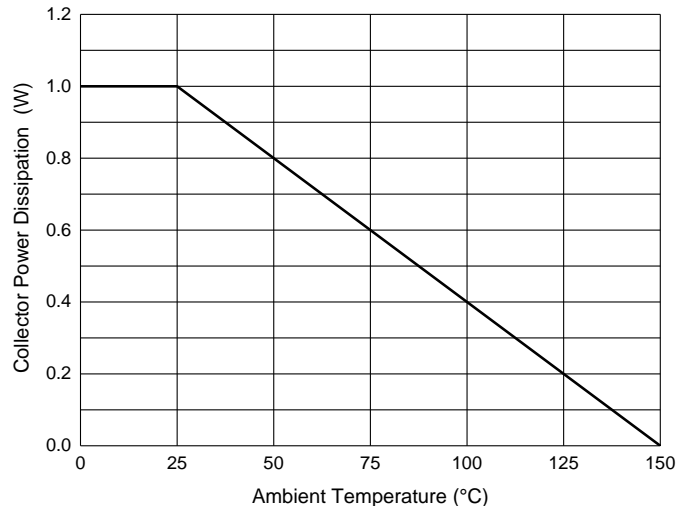


Fig. 6 - Collector Power Derating Curve



Ordering Information

Device	Packing
Part Number-AP	Ammo Packing: 20Kpcs/Carton
Part Number-BP	Bulk: 100Kpcs/Carton

Note : Adding "-HF" Suffix for Halogen Free, eg. Part Number-TP-HF

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