

BCP68-25-TP Datasheet

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DiGi Electronics Part Number	BCP68-25-TP-DG
Manufacturer	Micro Commercial Co
Manufacturer Product Number	BCP68-25-TP
Description	Interface
Detailed Description	Bipolar (BJT) Transistor NPN 20 V 1 A 40MHz 1 W Surface Mount SOT-223

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Purchase and inquiry

Manufacturer Product Number:

BCP68-25-TP

Series:

-

Transistor Type:

NPN

Voltage - Collector Emitter Breakdown (Max):

20 V

Current - Collector Cutoff (Max):

100nA (ICBO)

Power - Max:

1 W

Operating Temperature:

-55°C ~ 150°C

Package / Case:

TO-261-4, TO-261AA

Base Product Number:

BCP68

Manufacturer:

Micro Commercial Co

Product Status:

Active

Current - Collector (Ic) (Max):

1 A

Vce Saturation (Max) @ Ib, Ic:

500mV @ 100mA, 1A

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

160 @ 500mA, 1V

Frequency - Transition:

40MHz

Mounting Type:

Surface Mount

Supplier Device Package:

SOT-223

Environmental & Export classification

REACH Status:

REACH Unaffected

HTSUS:

8541.29.0075

ECCN:

EAR99

Features

- High Current and Low Voltage
- Halogen Free. "Green" Device (Note 1)
- 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

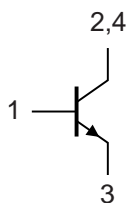
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 125°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	32	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	1	A
Power Dissipation	P_D	1	W

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Marking: BCP68-25

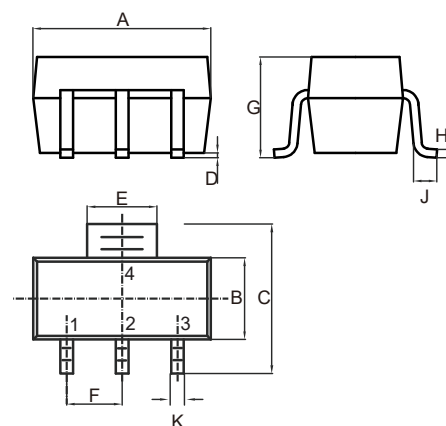
Internal Structure



1.BASE
2,4.COLLECTOR
3.EMITTER

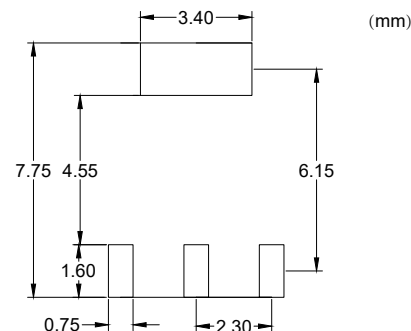
NPN Plastic-Encapsulate Transistors

SOT-223



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.248	0.264	6.30	6.70	
B	0.130	0.146	3.30	3.70	
C	0.264	0.287	6.70	7.30	
D	0.001	0.004	0.02	0.10	
E	0.114	0.122	2.90	3.10	
F	0.091		2.30		TYP.
G	---	0.071	---	1.80	
H	0.009	0.014	0.23	0.35	
J	0.030	---	0.75	---	
K	0.026	0.033	0.66	0.84	

Suggested Solder Pad Layout



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

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	32			V	$I_C=100\mu\text{A}$, $I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	20			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-Base Cutoff Current	I_{CBO}			100	nA	$V_{CB}=25\text{V}$, $I_E=0$
Emitter-Base Cutoff Current	I_{EBO}			100	nA	$V_{EB}=5\text{V}$, $I_C=0$
DC Current Gain	$h_{FE(1)}$	160		375		$V_{CE}=1\text{V}$, $I_C=0.5\text{A}$
	$h_{FE(2)}$	60				$V_{CE}=1\text{V}$, $I_C=1\text{A}$
	$h_{FE(3)}$	40				$V_{CE}=1\text{V}$, $I_C=2\text{A}$
	$h_{FE(4)}$	50				$V_{CE}=10\text{V}$, $I_C=5\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			0.5	V	$I_C=1\text{A}$, $I_B=100\text{mA}$
Base-Emitter Voltage	V_{BE}			0.7	V	$V_{CE}=10\text{V}$, $I_C=5\text{mA}$
				1.0	V	$V_{CE}=1\text{V}$, $I_C=1\text{A}$
Transition Frequency	f_T	40			MHz	$V_{CE}=5\text{V}$, $I_C=10\text{mA}$, $f=100\text{MHz}$
Collector Output Capacitance	C_{ob}		22		pF	$V_{CB}=5\text{V}$, $I_E=0$, $f=1\text{MHz}$

Curve Characteristics

Fig. 1 - P_D Power Dissipation

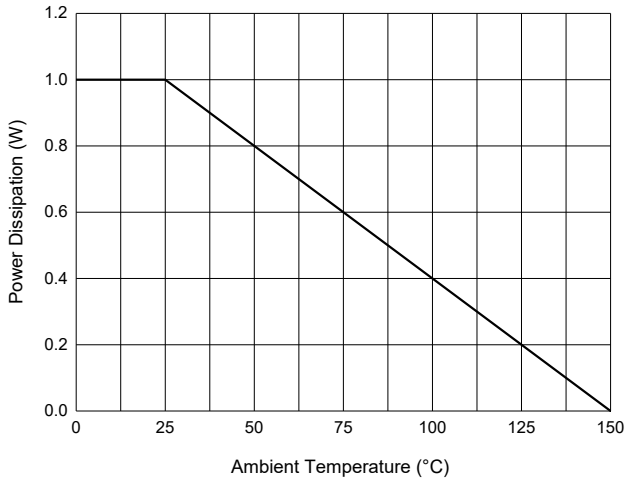


Fig. 2 - DC Current Gain Characteristics

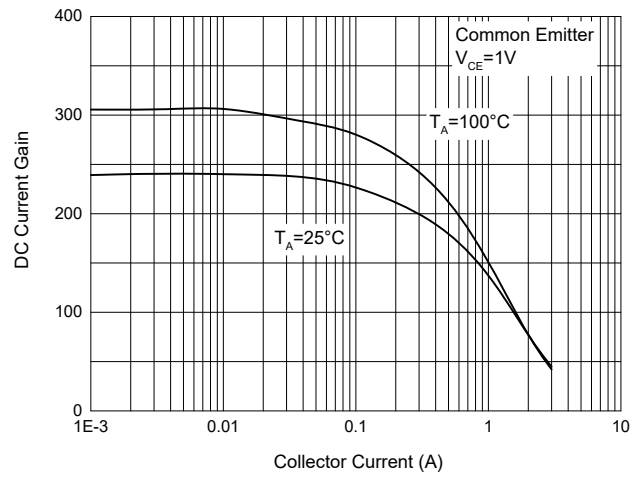


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

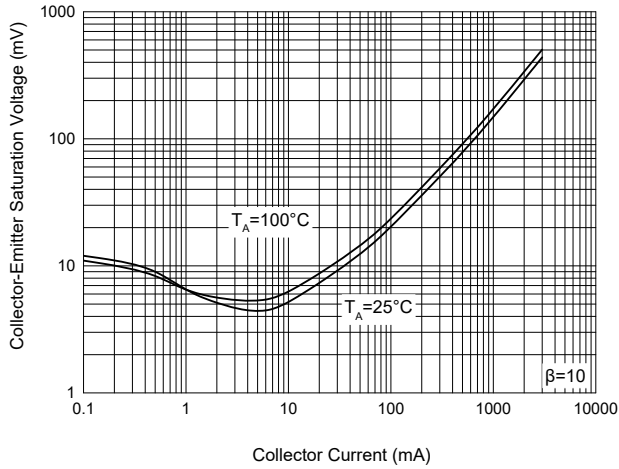
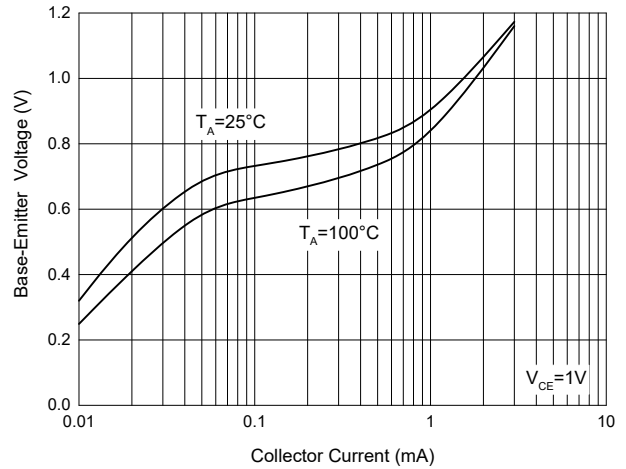


Fig. 4 - Base-Emitter Voltage Characteristics



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 2.5Kpcs/Reel

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