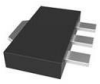
2SB1188-Q-TP Datasheet



DiGi Electronics Part Number	2SB1188-Q-TP-DG
Manufacturer	Micro Commercial Co
Manufacturer Product Number	2SB1188-Q-TP
Description	Interface
Detailed Description	Bipolar (BJT) Transistor PNP 32 V 2 A 80MHz 500 mW Surface Mount SOT-89

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
2SB1188-Q-TP	Micro Commercial Co
Series:	Product Status:
-	Active
Transistor Type:	Current - Collector (Ic) (Max):
PNP	2 A
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
32 V	800mV @ 200mA, 2A
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
1μA (ICBO)	82 @ 500mA, 3V
Power - Max:	Frequency - Transition:
500 mW	80MHz
Operating Temperature:	Mounting Type:
-55°C ~ 150°C (TJ)	Surface Mount
Package / Case:	Supplier Device Package:
TO-243AA	SOT-89
Base Product Number:	
2SB1188	

Environmental & Export classification

REACH Status:	ECCN:
REACH Unaffected	EAR99
HTSUS:	
8541.21.0095	

Features

- 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)

PNP
Plastic Encapsulate Transistors

Maximum Ratings @ 25°C Unless Otherwise Specified

- Operating Junction Temperature Range: -55℃ to +150℃
- Storage Temperature Range: -55℃ to +150℃
- Thermal Resistance: 250℃/W Junction to Ambient

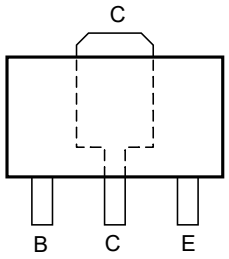
Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-32	V
Emitter-Base Voltage	V_{EBO}	-5.0	V
Maxmium Collector Current	I_{CM}	-2.0	A
Collector Power Dissipation	P_C	500	mW

Classification Of h_{FE}

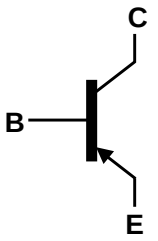
Rank	P	Q	R
Range	82-180	120-270	180-390
Marking	BCP	BCQ	BCR

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

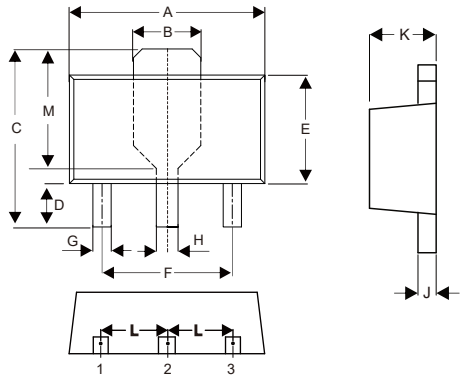
Pin Configuration - Top View



Internal Structure

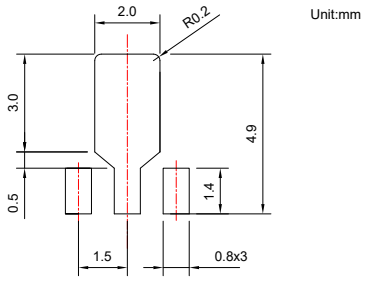


SOT-89



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.169	0.185	4.30	4.70	
B	0.061		1.55		TYP.
C	0.154	0.171	3.91	4.35	
D	0.031	0.047	0.80	1.20	
E	0.089	0.104	2.25	2.65	
F	0.118		3.00		TYP.
G	0.013	0.020	0.33	0.52	
H	0.015	0.021	0.38	0.53	
J	0.014	0.017	0.35	0.44	
K	0.055	0.063	1.40	1.60	
L	0.059		1.50		TYP.
M	0.108		2.75		TYP.

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min	Typ	Max	Units	Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-40			V	I_C=-50μA, I_E=0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-32			V	I_C=-1mA, I_B=0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5.0			V	I_E=-50μA, I_C=0
Collector-Base Cutoff Current	I_{CBO}			-1.0	μA	V_{CB}=-20V, I_E=0
Emitter-Base Cutoff Current	I_{EBO}			-1.0	μA	V_{EB}=-4.0V, I_C=0
DC Current Gain (Note2)	h_{FE}	82		390		V_{CE}=-3.0V, I_C=-0.5A
Collector-Emitter Saturation Voltage (Note2)	$V_{CE(sat)}$			-0.8	V	I_C=-2A, I_B=-0.2A
Transition Frequency	f_T		80		MHz	V_{CE}=-5.0V, I_C=-0.5A, f=30MHz
Collector Output Capacitance	C_{ob}			65	pF	V_{CB}=-10V, I_E=0, f=1.0MHz

Note 2. Measured Using Pulse Current.

Curve Characteristics

Fig. 1 - Static Characteristics

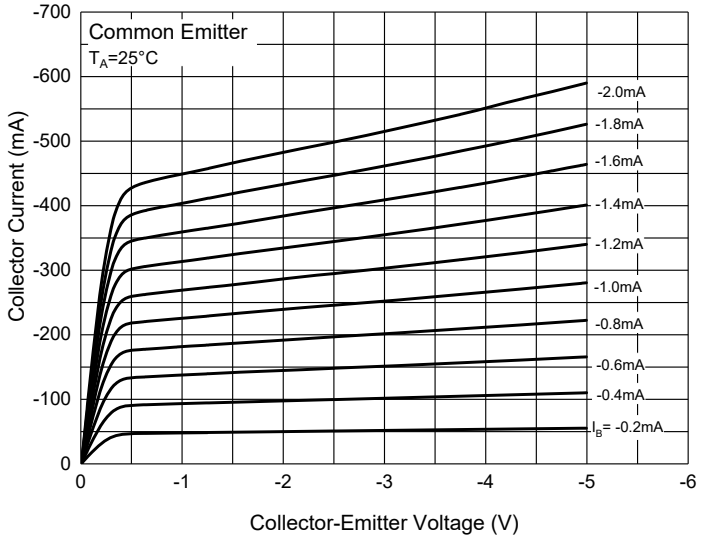


Fig. 2 - DC Current Gain Characteristics

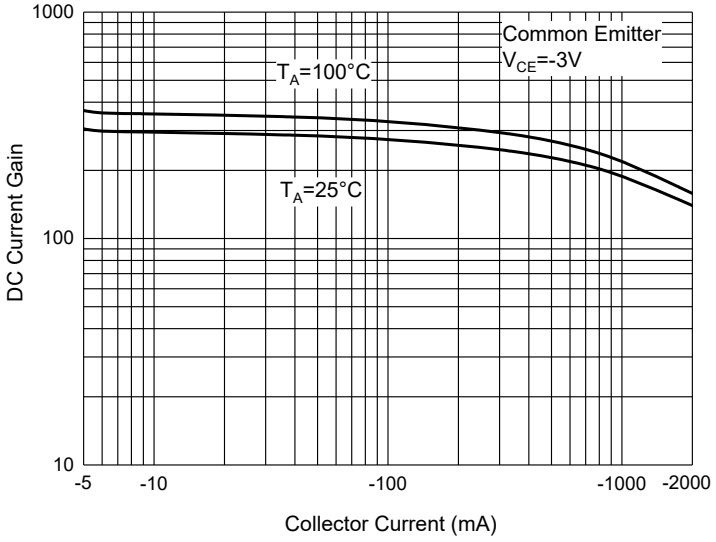


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

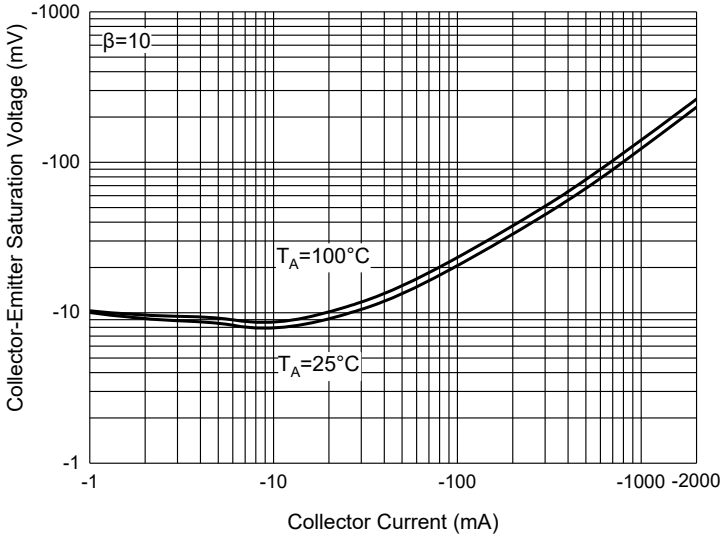


Fig. 4 - Base-Emitter Saturation Voltage Characteristics

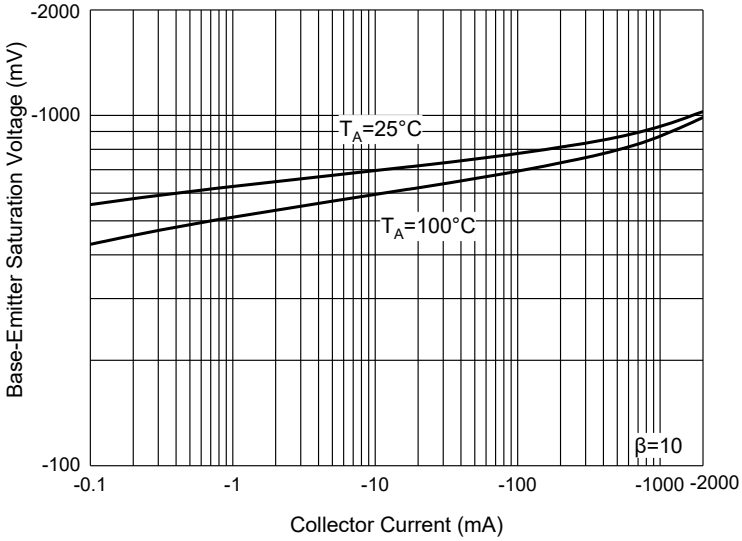


Fig. 5 - Base-Emitter Voltage Characteristics

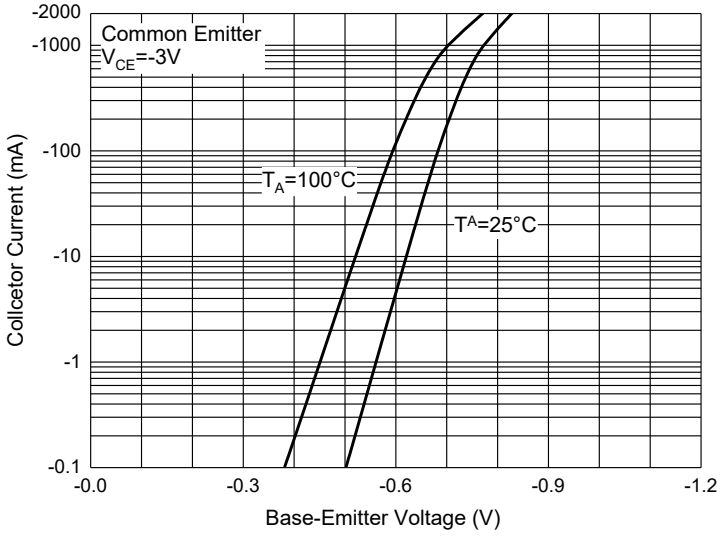
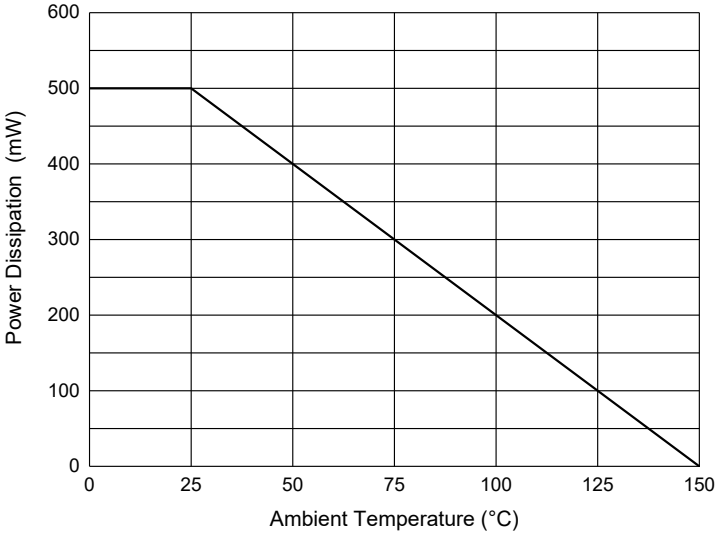


Fig. 6 - Power Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:1Kpcs/Reel

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