BF721T1G

PNP Silicon Transistor

Features

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

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector - Emitter Voltage	V_{CEO}	-300	Vdc
Collector - Base Voltage	V_{CBO}	-300	Vdc
Collector - Emitter Voltage	V_{CER}	-300	Vdc
Emitter - Base Voltage	V_{EBO}	-5.0	Vdc
Collector Current	I_C	-50	mAdc
Total Power Dissipation up to T_A = 25°C (Note 1)	P_D	1.5	W
Storage Temperature Range	T_{stg}	-65 to +150	°C
Junction Temperature	T_J	150	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction-to-Ambient (Note 1)	$R_{\theta JA}$	83.3	°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. Device mounted on a glass epoxy printed circuit board 1.575 in. x 1.575 in. x 0.059 in.; mounting pad for the collector lead min. 0.93 in^2.

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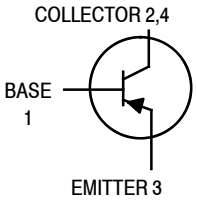
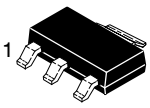
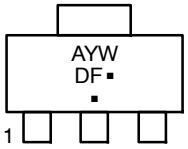
PNP SILICON TRANSISTOR SURFACE MOUNT





SOT-223 (TO-261)
CASE 318E
STYLE 1

MARKING DIAGRAM



A = Assembly Location
Y = Year
W = Work Week
DF = Device Code
▪ = Pb-Free Package
(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
BF721T1G	SOT-223 (Pb-Free)	1000 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Breakdown Voltage (I_C = −1.0 mAdc, I_B = 0)	$V_{(BR)CEO}$	−300	–	Vdc
Collector-Base Breakdown Voltage (I_C = −100 μAdc, I_E = 0)	$V_{(BR)CBO}$	−300	–	Vdc
Collector-Emitter Breakdown Voltage (I_C = −100 μAdc, R_{BE} = 2.7 kΩ)	$V_{(BR)CER}$	−300	–	Vdc
Emitter-Base Breakdown Voltage (I_E = −10 μAdc, I_C = 0)	$V_{(BR)EBO}$	−5.0	–	Vdc
Collector-Base Cutoff Current (V_{CB} = −200 Vdc, I_E = 0)	I_{CBO}	–	−10	nAdc
Collector−Emitter Cutoff Current (V_{CE} = −250 Vdc, R_{BE} = 2.7 kΩ) (V_{CE} = −200 Vdc, R_{BE} = 2.7 kΩ, T_J = 150°C)	I_{CER}	– –	−50 −10	nAdc μAdc
ON CHARACTERISTICS				
DC Current Gain (I_C = −25 mAdc, V_{CE} = −20 Vdc)	h_{FE}	50	–	–
Collector-Emitter Saturation Voltage (I_C = −30 mAdc, I_B = −5.0 mAdc)	$V_{CE(sat)}$	–	−0.8	Vdc
DYNAMIC CHARACTERISTICS				
Current-Gain − Bandwidth Product (V_{CE} = −10 Vdc, I_C = −10 mAdc, f = 35 MHz)	f_T	60	–	MHz
Feedback Capacitance (V_{CE} = −30 Vdc, I_C = 0, f = 1.0 MHz)	C_{re}	–	1.6	pF

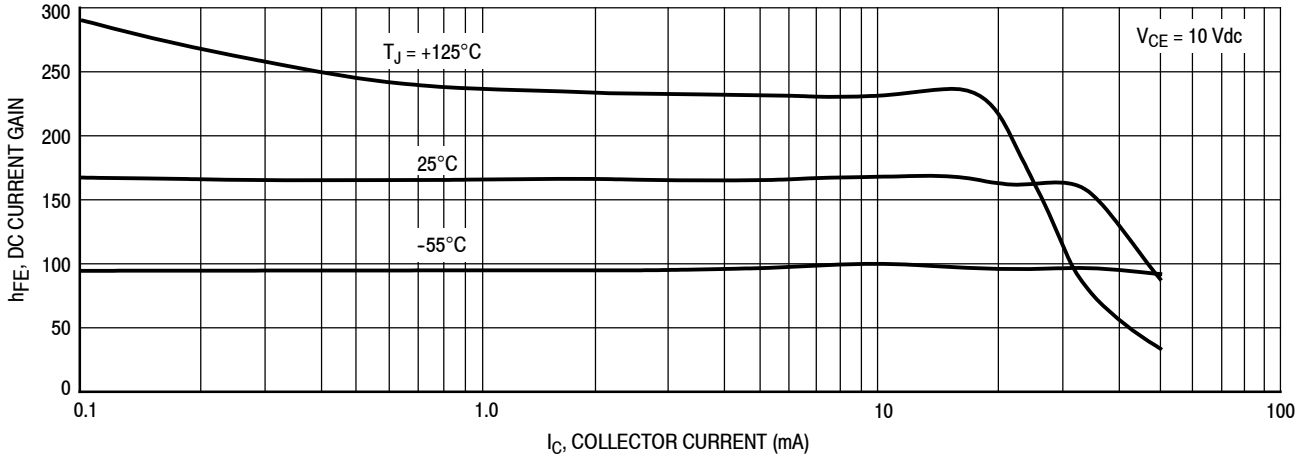


Figure 1. DC Current Gain

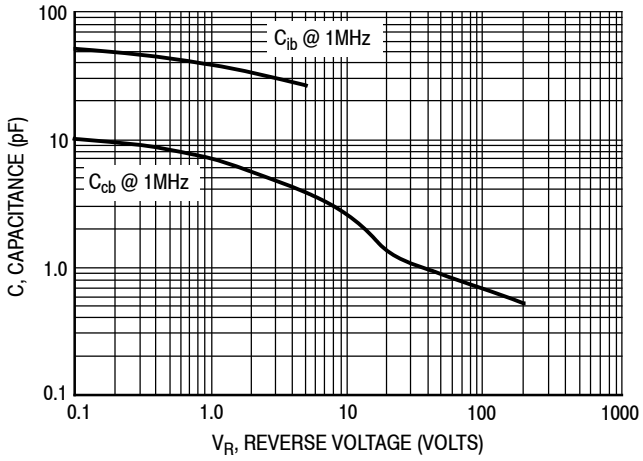


Figure 2. Capacitance

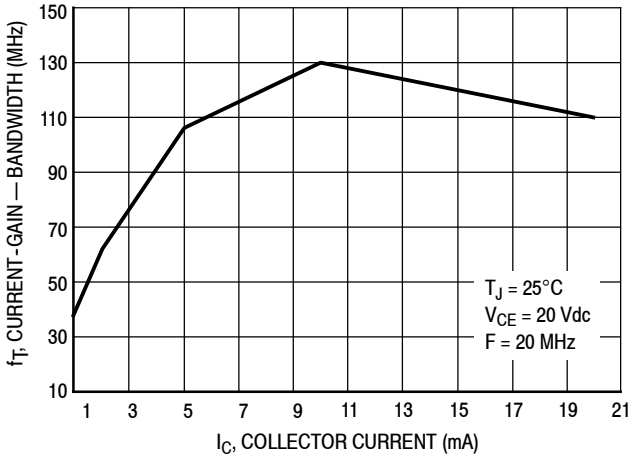


Figure 3. Current−Gain — Bandwidth

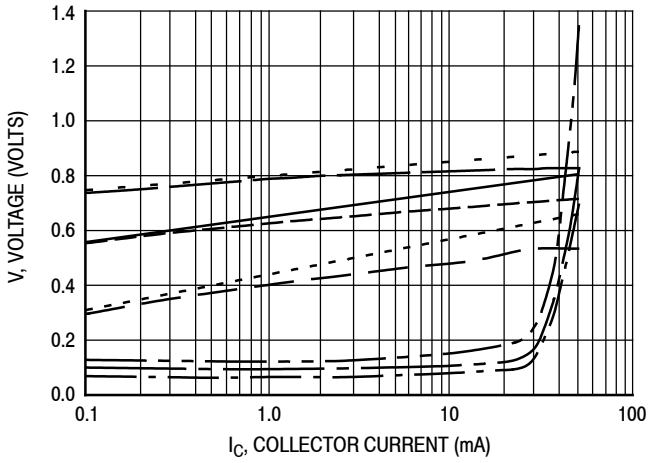
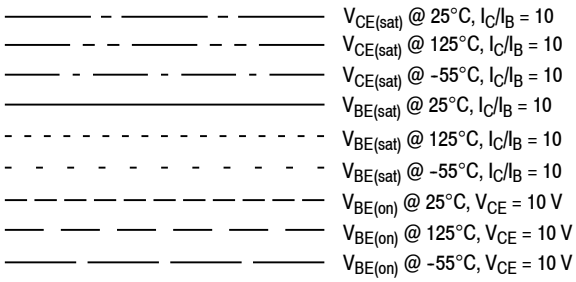
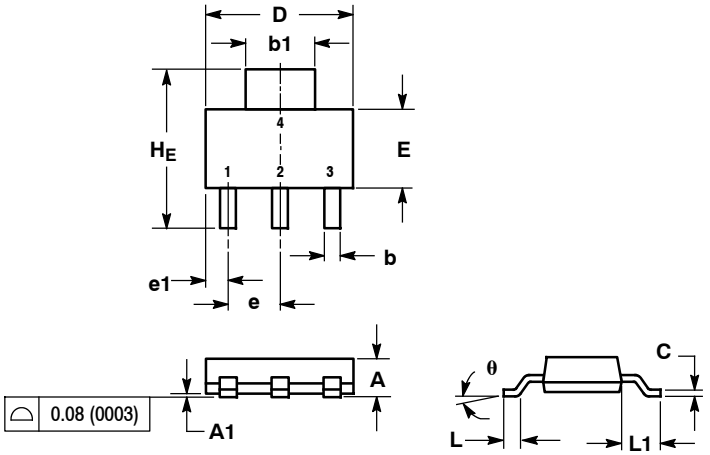


Figure 4. “ON” Voltages



PACKAGE DIMENSIONS

SOT−223 (TO−261)
CASE 318E−04
ISSUE N

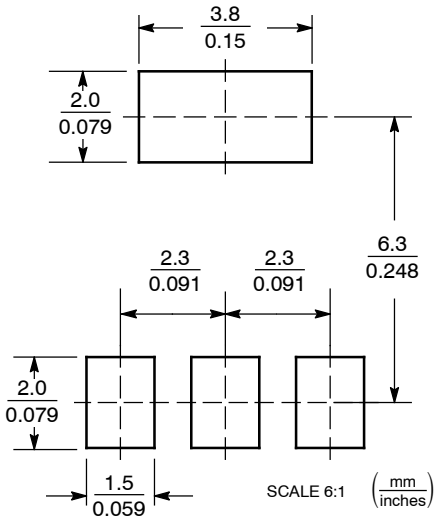


NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: INCH.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	1.50	1.63	1.75	0.060	0.064	0.068
A1	0.02	0.06	0.10	0.001	0.002	0.004
b	0.60	0.75	0.89	0.024	0.030	0.035
b1	2.90	3.06	3.20	0.115	0.121	0.126
c	0.24	0.29	0.35	0.009	0.012	0.014
D	6.30	6.50	6.70	0.249	0.256	0.263
E	3.30	3.50	3.70	0.130	0.138	0.145
e	2.20	2.30	2.40	0.087	0.091	0.094
e1	0.85	0.94	1.05	0.033	0.037	0.041
L	0.20	---	---	0.008	---	---
L1	1.50	1.75	2.00	0.060	0.069	0.078
H_E	6.70	7.00	7.30	0.264	0.276	0.287
θ	0°	-	10°	0°	-	10°

STYLE 1:
PIN 1. BASE
2. COLLECTOR
3. EMITTER
4. COLLECTOR

SOLDERING FOOTPRINT*



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

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
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P.O. Box 5163, Denver, Colorado 80217 USA
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