



Micro Commercial Components  
 20736 Marilla Street Chatsworth  
 CA 91311  
 Phone: (818) 701-4933  
 Fax: (818) 701-4939

# BFS17

## NPN Transistor 25 mA 15 Volts 300 mWatts

### Features

- NPN transistor in a plastic SOT-23 package.
- A wide range of RF applications such as:  
 Mixers and oscillators in TV tuners  
 RF communications equipment.
- Marking Code: E1P

Maximum Ratings @ 25°C Unless Otherwise Noted

Symbol	Rating	Value	Unit
$V_{CEO}$	Collector-Emitter Voltage	15	V
$V_{CBO}$	Collector-Base Voltage	25	V
$V_{EBO}$	Emitter-Base Voltage	2.5	V
$I_C$	DC Collector Current	25	mA
$I_{CM}$	Peak Collector Current	50	mA
$P_{tot}$	Total Power Dissipation up to $T_S = 70^\circ C^*$	300	mW
$T_J, T_{STG}$	Operating and Storage Junction Temperature Range	-55~+150	°C

### Thermal Characteristics

Symbol	Characteristic	Value	Unit
$R_{th-j-s}$	Thermal Resistance, Junction to Soldering Point (up to $T_S = 70^\circ C^*$ )	260	K/W

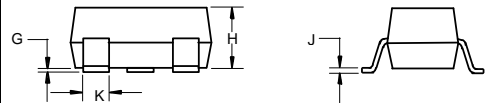
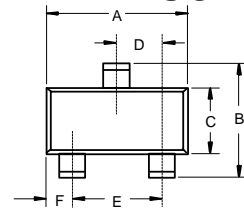
### Electrical Characteristics @ 25°C Unless Otherwise Noted

Symbol	Characteristic	Min	Typ	Max	Unit
--------	----------------	-----	-----	-----	------

### Off Characteristics

$I_{CBO}$	Collector Cutoff Current ( $V_{CB} = 10V, I_E = 0$ )	---	---	10	nA
$h_{FE}$	DC Current Gain ( $I_C = 2.0mA, V_{CE} = 1.0Vdc$ ) ( $I_C = 25mA, V_{CE} = 1.0Vdc$ )	25	90	---	---
$f_T$	Transition Frequency ( $I_C = 100\mu A, V_{CE} = 1.5Vdc, f = 200MHz$ )	---	1.0	---	GHz
$C_C$	Collector Capacitance ( $I_C = 0, V_{CB} = 10Vdc, f = 1.0MHz$ )	---	0.8	1.5	pF
$C_E$	Emitter Capacitance ( $I_C = 0, V_{EB} = 0.5V, f = 1.0MHz$ )	---	---	2.0	pF
$C_{RE}$	Feedback Capacitance ( $I_C = 1.0mA, V_{CE} = 5.0V, f = 1.0MHz$ )	---	0.65	---	pF
NF	Noise Figure ( $I_C = 2.0mA, V_{CE} = 5.0V, R_S = 50\Omega, f = 1.0MHz$ )	---	4.5	---	dB

### SOT-23



### DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.098	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

### Suggested Solder Pad Layout

