Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!
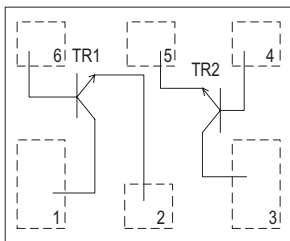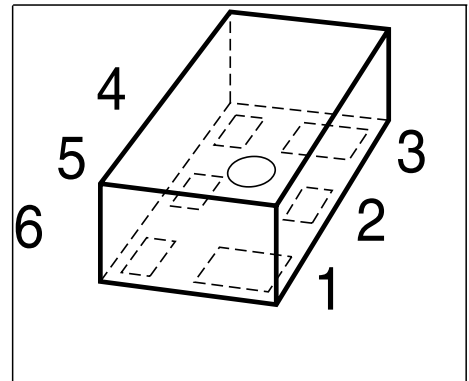

Contact us

NPN Silicon RF Transistor

Preliminary data

- Low voltage/ Low current operation

- For low noise amplifiers

- For Oscillators up to 3.5 GHz and Pout > 10 dBm

- Low noise figure: 1.0 dB at 1.8 GHz

 Built in 2 transitors (TR1, TR2: die as BFR360L3)

ESD: **E**lectro**s**tatic **d**ischarge sensitive device, observe handling precaution!

Type	Marking	Pin Configuration						Package
BFS360L6	FB	1=C1	2=E1	3=C2	4=B2	5=E2	6=B1	TSLP-6-1

Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-emitter voltage	V_{CEO}	6	V
Collector-emitter voltage	V_{CES}	15	
Collector-base voltage	V_{CBO}	15	
Emitter-base voltage	V_{EBO}	2	
Collector current	I_C	35	mA
Base current	I_B	4	
Total power dissipation[1) $T_S \leq 101°C$	P_{tot}	210	mW
Junction temperature	T_i	150	°C
Ambient temperature	T_A	-65 ... 150	
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point[2)	R_{thJS}	≤ 230	K/W

[1]T_S is measured on the collector lead at the soldering point to the pcb

[2]For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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Electrical Characteristics at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Collector-emitter breakdown voltage I_C = 1 mA, I_B = 0	$V_{(BR)CEO}$	6	9	-	V
Collector-emitter cutoff current V_{CE} = 15 V, V_{BE} = 0	I_{CES}	-	-	10	µA
Collector-base cutoff current V_{CB} = 5 V, I_E = 0	I_{CBO}	-	-	100	nA
Emitter-base cutoff current V_{EB} = 1 V, I_C = 0	I_{EBO}	-	-	1	µA
DC current gain I_C = 15 mA, V_{CE} = 3 V	h_{FE}	60	130	200	-

Electrical Characteristics at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC Characteristics (verified by random sampling)					
Transition frequency I_C = 15 mA, V_{CE} = 3 V, f = 1 GHz	f_T	-	14	-	GHz
Collector-base capacitance V_{CB} = 5 V, f = 1 MHz, emitter grounded	C_{cb}	-	0.3	-	pF
Collector emitter capacitance V_{CE} = 5 V, f = 1 MHz, base grounded	C_{ce}	-	0.15	-	
Emitter-base capacitance V_{EB} = 0.5 V, f = 1 MHz, collector grounded	C_{eb}	-	0.43	-	
Noise figure I_C = 3 mA, V_{CE} = 3 V, Z_S = Z_{Sopt}, f = 1,8 GHz I_C = 3 mA, V_{CE} = 3 V, Z_S = Z_{Sopt}, f = 3 GHz	F_{min}	 - -	 1 1.5	 - -	dB
Power gain, maximum available[1] I_C = 15 mA, V_{CE} = 3 V, Z_S = Z_{Sopt}, Z_L = Z_{Lopt}, f = 1.8 GHz I_C = 15 mA, V_{CE} = 3 V, Z_S = Z_{Sopt}, Z_L = Z_{Lopt}, f = 3 GHz	G_{ma}	 - -	 14.5 10	 - -	
Transducer gain I_C = 15 mA, V_{CE} = 3 V, Z_S = Z_L = 50Ω , f = 1.8 GHz I_C = 15 mA, V_{CE} = 3 V, Z_S = Z_L = 50Ω , f = 3 GHz	$|S_{21e}|^2$	 - -	 12 8	 - -	dB
Third order intercept point at output[2] V_{CE} = 3 V, I_C = 15 mA, f = 1.8 GHz, Z_S = Z_L = 50Ω	IP_3	-	24	-	dBm
1dB Compression point at output I_C = 15 mA, V_{CE} = 3 V, Z_S = Z_L = 50Ω , f = 1.8 GHz	P_{-1dB}	-	9	-	

[1] G_{ma} = $|S_{21e}$ / $S_{12e}|$ (k-(k²-1)$^{1/2}$)

[2] IP3 value depends on termination of all intermodulation frequency components.
Termination used for this measurement is 50Ω from 0.1 MHz to 6 GHz

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