



SEMI CONDUCTOR

BCW61BLT1

Shandong Yiguang Electronic Joint stock Co., Ltd

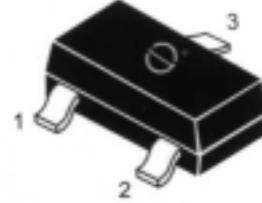
TECHNICAL DATA

PNP EPITAXIAL SILICON TRANSISTOR

**ABSOLUTE MAXIMUM RATINGS at Ta=25**

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	Vcbo	-32	V
Collector-Emitter Voltage	Vceo	-32	V
Emitter-Base Voltage	Vebo	-5	V
Collector Current	Ic	-100	mA
Collector Dissipation Ta=25 *	P <sub>D</sub>	225	mW
Junction Temperature	T <sub>j</sub>	150	
Storage Temperature	Tstg	-55-150	

Package:SOT-23



PIN:	1	2	3
STYLE			
NO.1	B	E	C

**ELECTRICAL CHARACTERISTICS at Ta=25**

Characteristic	Symbol	Min	Max	Unit	Test Conditions
Collector-Emitter Breakdown Voltage#	BVceo	-32		V	Ic= -2mA Ib=0
Emitter-Base Breakdown Voltage	BVebo	-5		V	Ie= -1uA Ic=0
DC Current Gain	Hfe	140	310		Vce= -5V Ic= -2mA
Collector-Emitter Saturation Voltage	Vce(sat)		-0.55	V	Ic= -50mA Ib= -1.25mA
Base-Emitter Saturation Voltage	Vbe(sat)	-0.68	-1.05	V	Ic= -50mA Ib= -1.25mA
Base-Emitter on Voltage	Vbe(on)	-0.6	-0.75	V	Vce= -5V Ic= -2mA
Output Capacitance	Cob		6	PF	Vcb= -10V Ie=0 f=1MHz
Noise Figure	NF		6	dB	Vce= -5V Ic= -0.2mA F=1KHz Rs=2KΩ

**SWITCHING CHARACTERISTICS**

Turn-On Time	t <sub>on</sub>	—	150	ns	I <sub>C</sub> = -10 mAdc I <sub>B1</sub> = -1.0 mAdc
Turn-Off Time	t <sub>off</sub>	—	800	ns	I <sub>B2</sub> = -1.0mAdc, V <sub>BB</sub> = -3.6 Vdc, R <sub>1</sub> = R <sub>2</sub> =5.0KΩ, R <sub>L</sub> = 990Ω

\* Total Device Dissipation : FR=1x0.75x0.062in Board,Derate 25 .

# Pulse Test : Pulse Width 300uS,Duty cycle 2%

**DEVICE MARKING:**

BCW61BLT1=BB



BCW61LT1

TYPICAL NOISE CHARACTERISTICS

( $V_{CE} = -5.0$  Vdc,  $T_A = 25^\circ\text{C}$ )

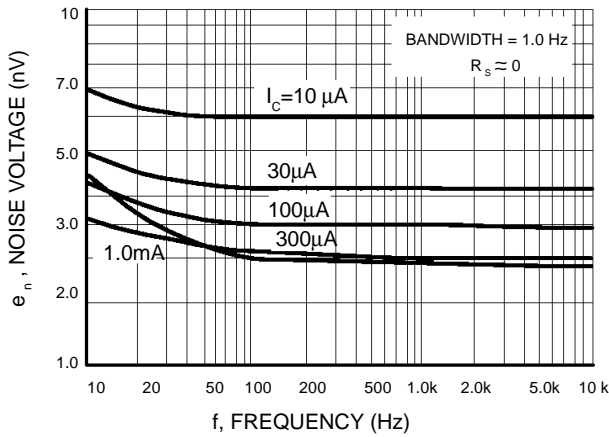


Figure 1. Noise Voltage

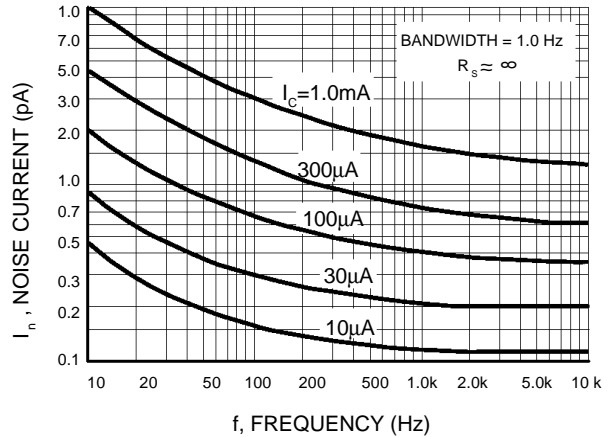


Figure 2. Noise Current

NOISE FIGURE CONTOURS

( $V_{CE} = -5.0$  Vdc,  $T_A = 25^\circ\text{C}$ )

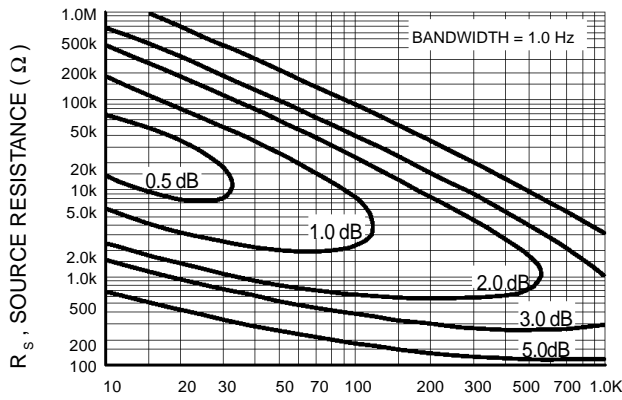


Figure 3. Narrow Band, 100 Hz

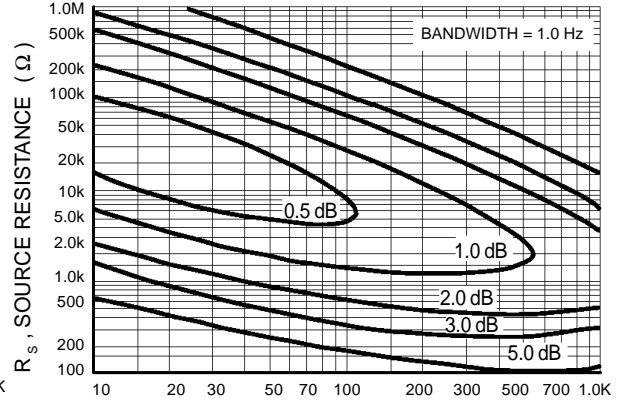


Figure 4. Narrow Band, 1.0 kHz

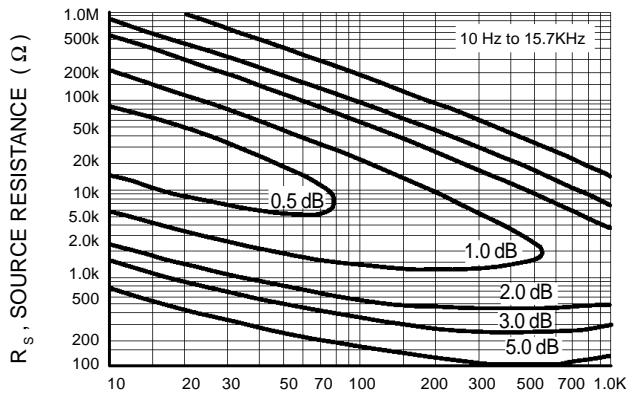


Figure 5. Wideband



TYPICAL STATIC CHARACTERISTICS

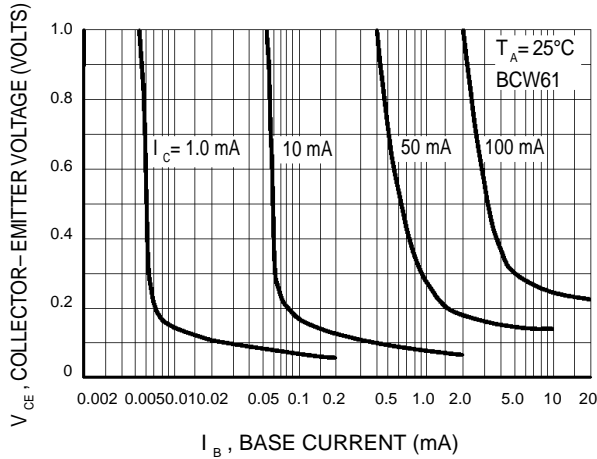


Figure 6. Collector Saturation Region

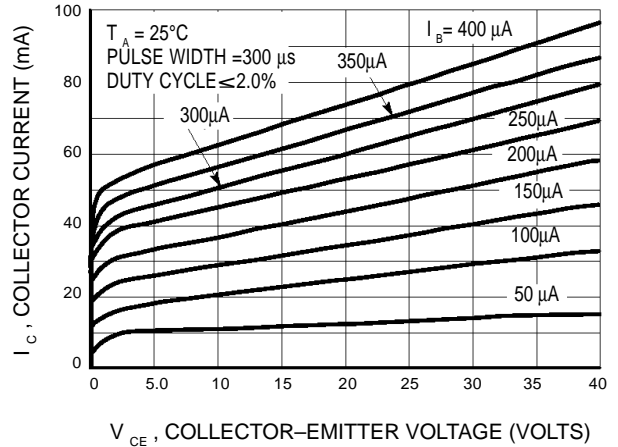


Figure 7. Collector Characteristics

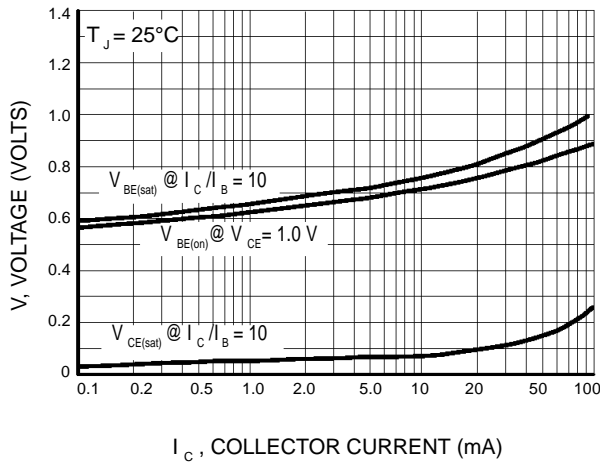


Figure 8. "On" Voltages

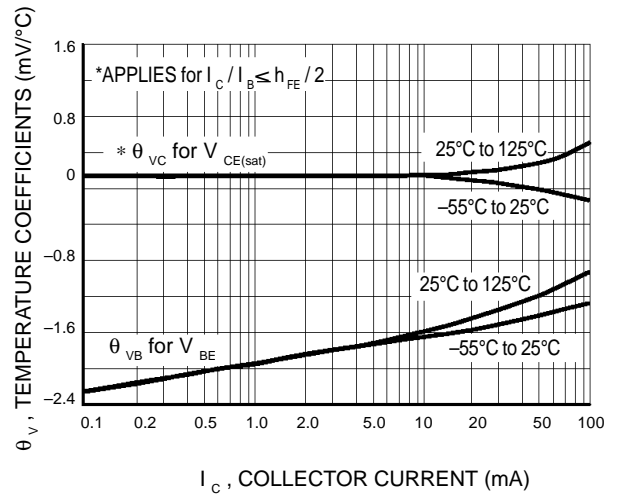
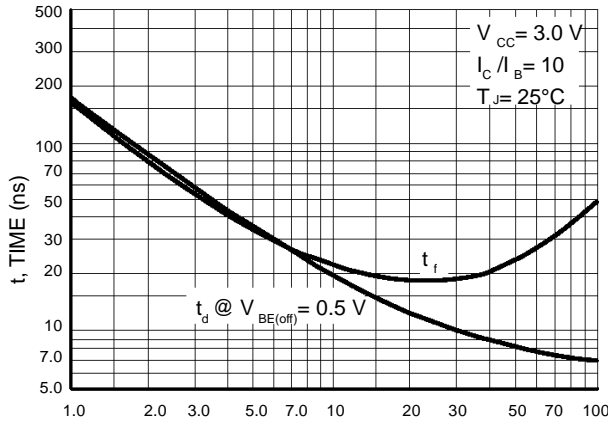


Figure 9. Temperature Coefficients

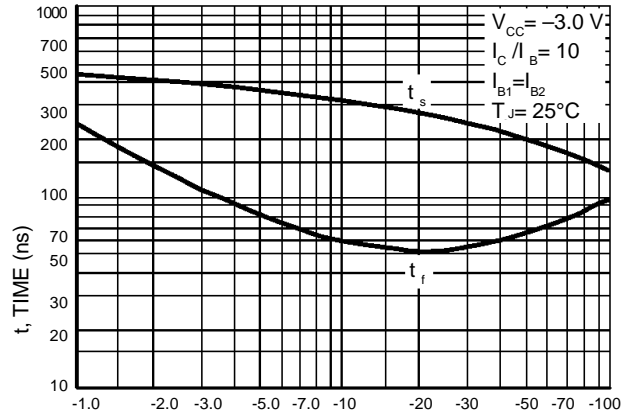


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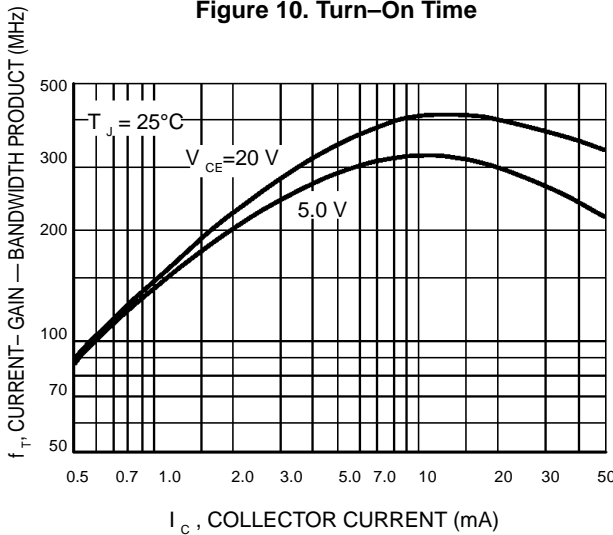
### TYPICAL DYNAMIC CHARACTERISTICS



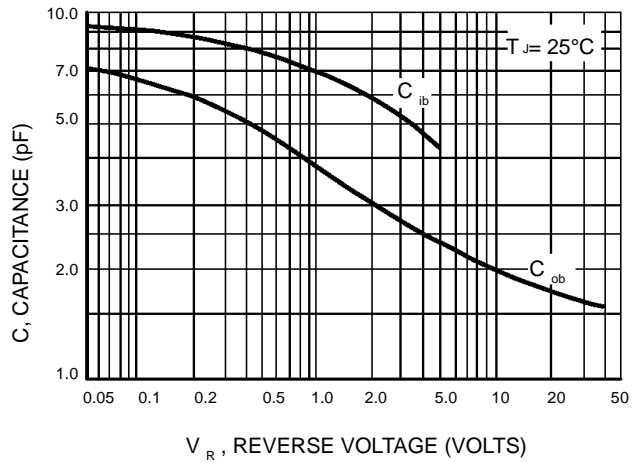
**Figure 10. Turn-On Time**



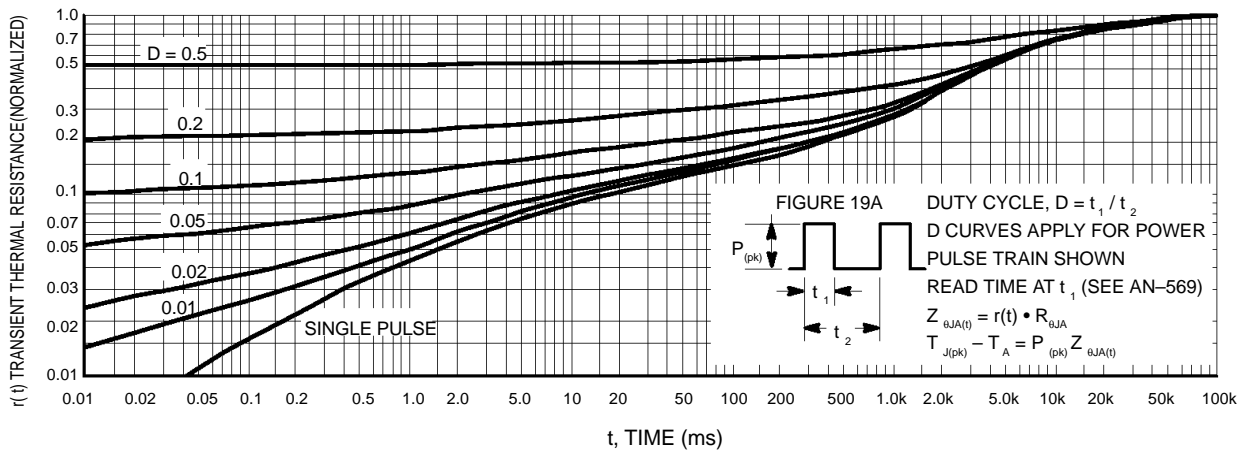
**Figure 11. Turn-Off Time**



**Figure 12. Current-Gain — Bandwidth Product**



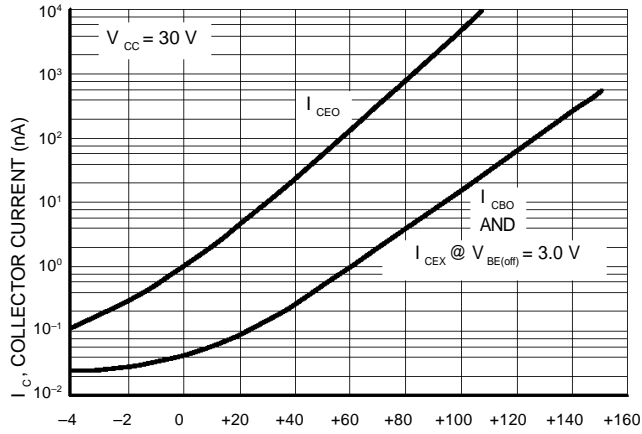
**Figure 13. Capacitance**



**Figure 14. Thermal Response**



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$T_J$ , JUNCTION TEMPERATURE (°C)

Figure 15. Typical Collector Leakage Current