



SEMICONDUCTOR

BCW29/30LT1

Shandong Yiguang Electronic Joint stock Co., Ltd

TECHNICAL DATA

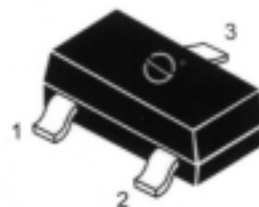
PNP EPITAXIAL SILICON TRANSISTOR

SURFACE MOUNT SMALL SIGNAL TRANSISTORS

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	-5.0	V
Collector Current	Ic	-100	mA
Peak Collector Current	ICM	-200	mA
Peak Emitter Current	IEM	-200	mA
Power Dissipation at T _{SB} =50 (Note1)	P _D	310	mW
Junction Temperature	Tj	150	
Storage Temperature	Tstg	-65-150	

Package:SOT-23



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

ELECTRICAL CHARACTERISTICS at Ta=25

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Collector-Base Breakdown Voltage	BVcbo	-32			V	Ic=-10uA Ie=0
Collector-Emitter Breakdown Voltage#	BVceo	-32			V	Ic=- 2mA Ib=0
Emitter-Base Breakdown Voltage	BVebo	-5			V	Ie= -10uA Ic=0
DC Current Gain Current Gain Group (Note2) BCW29	Hfe	120		260		Vce=-5.0V Ic= -2.0mA
Current Gain Group BCW30		215		500		
Collector-Emitter Saturation Voltage	Vce(sat)		-90 -250	300 650	mV	Ic= -10mA Ib= -0.5mA Ic= -100mA Ib= -5.0mA
Base-Emitter Saturation Voltage	Vbe(sat)		-700 -900		mV	Ic= -10mA Ib= -0.5mA Ic= -100mA Ib= -5.0mA
Base-Emitter Voltage	Vbe	-600	-660	-750 -800	mV	Vce= -5.0V Ic= -2.0mA Vce= -5.0V Ic= -10mA
Collector-Emitter Cutoff Current	Ices		-0.2	-15 -4.0	nA uA	Vce= -50V Vce= -50V,Tj=125
Gain Bandwidth Product	f _T		150		MHz	Vce=-5V Ic=-10mA f=100MHz
Collector-Base Capacitance	Ccbo			7.0	pF	Vcb= -10V f=1.0MHz
Noise Figure	NF		2.0	10	dB	Vce=-5V Ic=-200uA R _G =2k f=1MHz f=200MHz

Note1: Device mounted on ceramic substrate 0.7mm 2.5mm² area.

Note2: Current gain subgroup "c" is not available for BC856.

DEVICE MARKING:

BCW29LT1=C1

BCW30LT1=C2



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TYPICAL NOISE CHARACTERISTICS

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

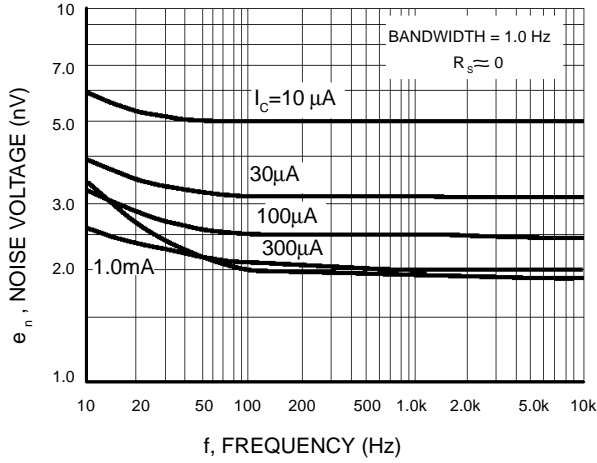


Figure 1. Noise Voltage

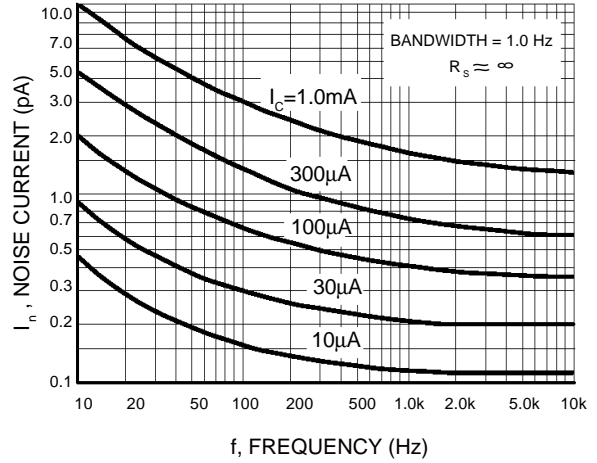


Figure 2. Noise Current

NOISE FIGURE CONTOURS

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

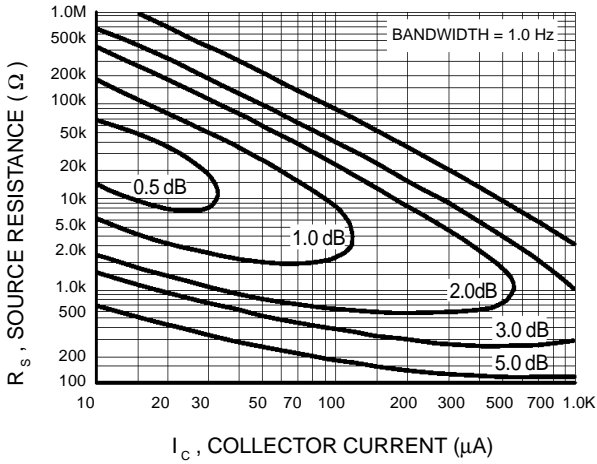


Figure 3. Narrow Band, 100 Hz

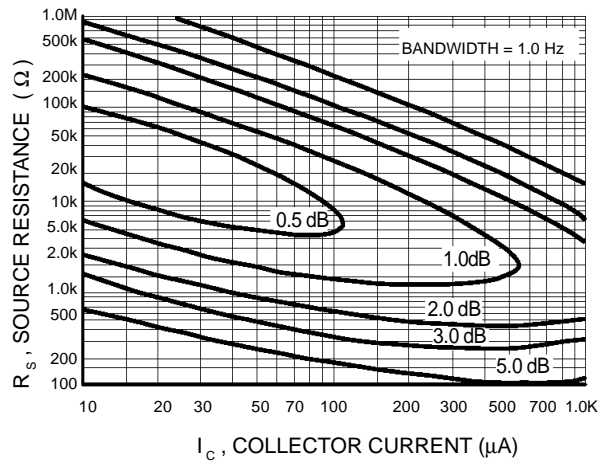


Figure 4. Narrow Band, 1.0 kHz

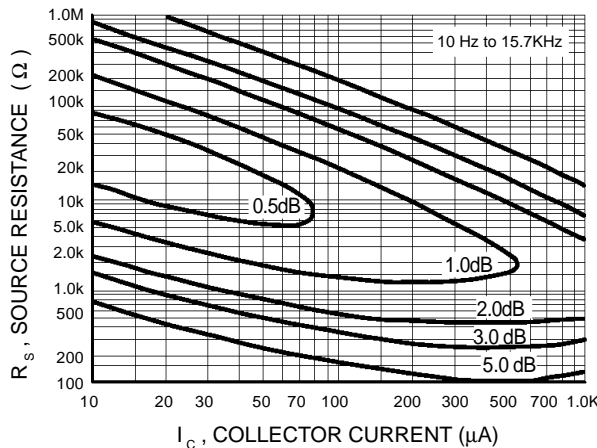


Figure 5. Wideband



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TYPICAL STATIC CHARACTERISTICS

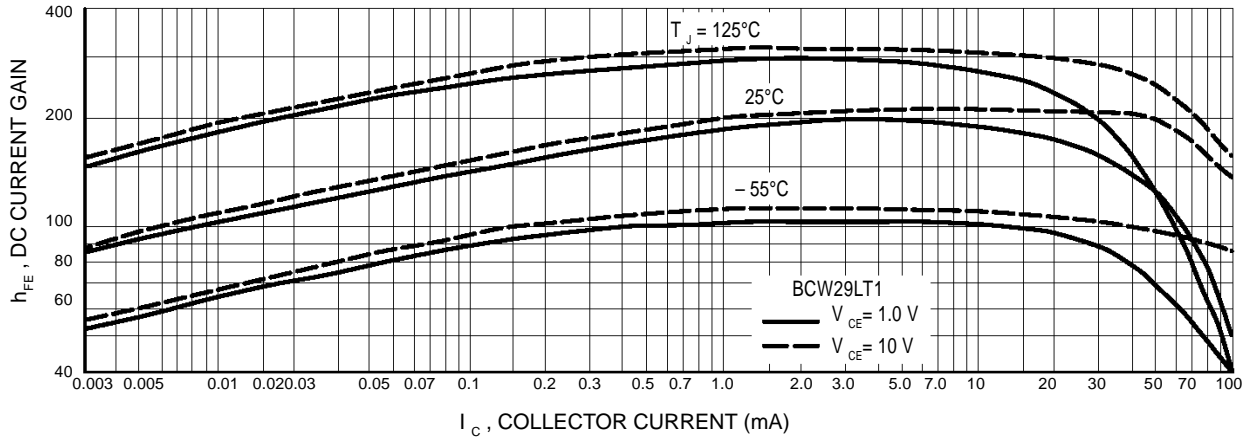


Figure 6. DC Current Gain

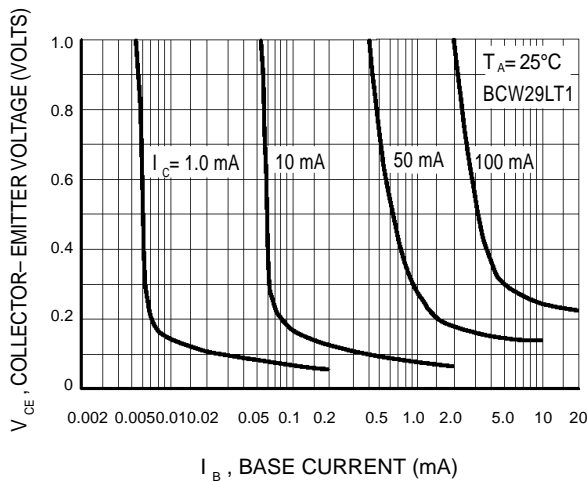


Figure 7. Collector Saturation Region

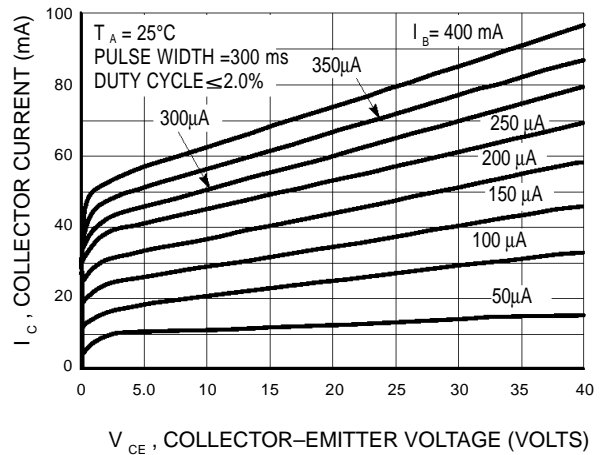


Figure 8. Collector Characteristics

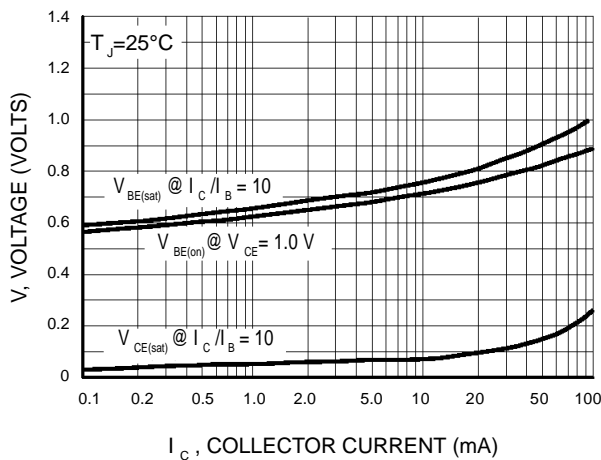


Figure 9. "On" Voltages

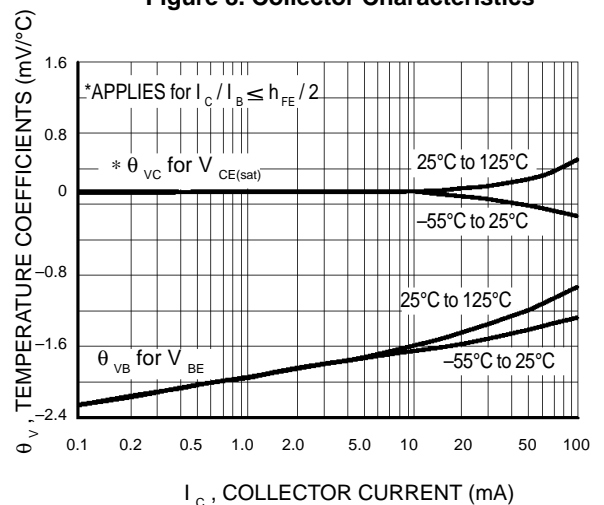
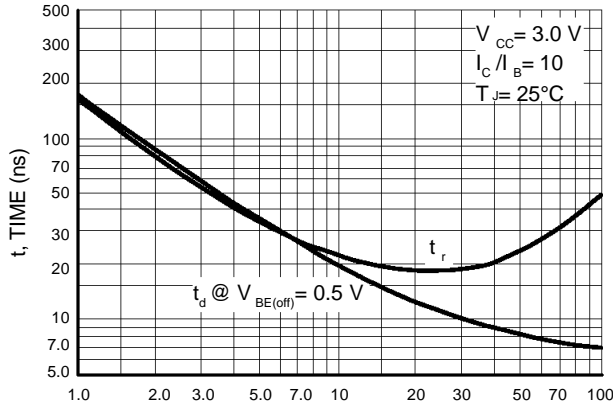


Figure 10. Temperature Coefficients



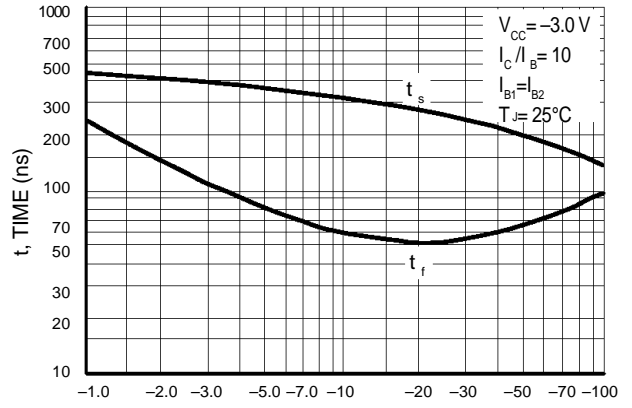
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TYPICAL DYNAMIC CHARACTERISTICS



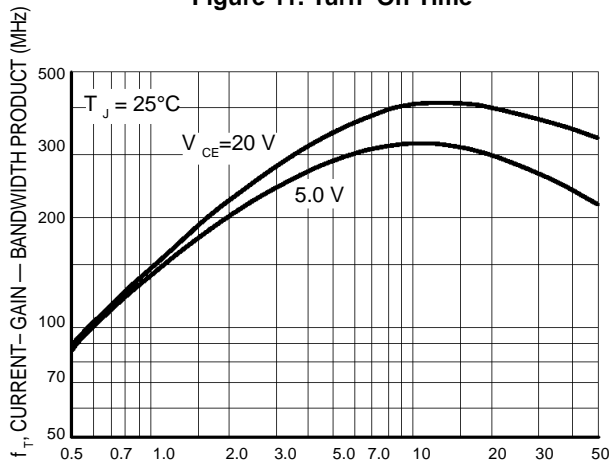
I_C, COLLECTOR CURRENT (mA)

Figure 11. Turn-On Time



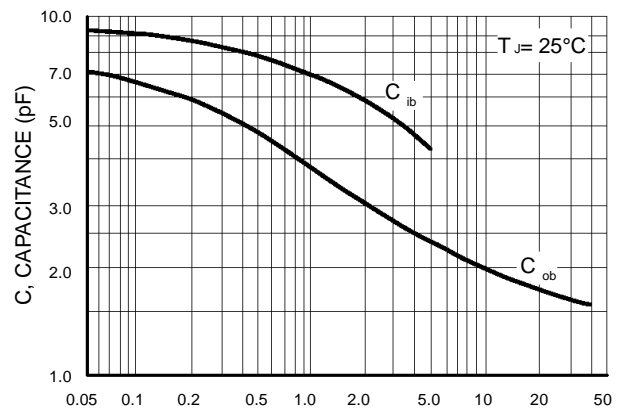
I_C, COLLECTOR CURRENT (mA)

Figure 12. Turn-Off Time



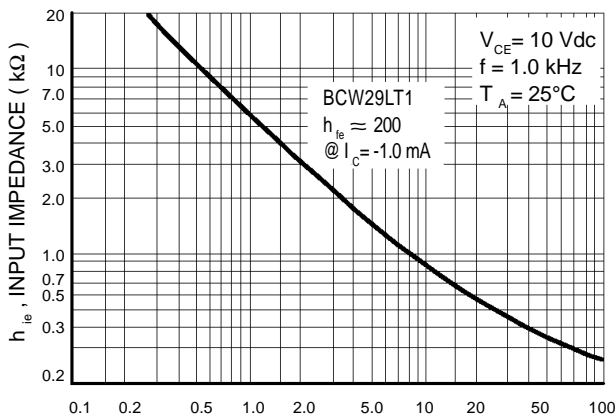
I_C, COLLECTOR CURRENT (mA)

Figure 13. Current-Gain — Bandwidth Product



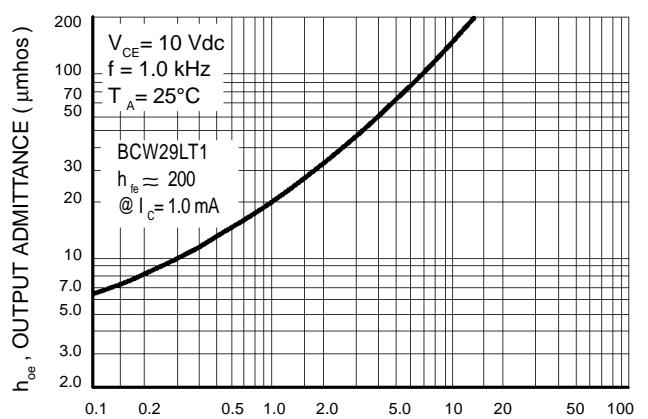
V_R, REVERSE VOLTAGE (VOLTS)

Figure 14. Capacitance



I_C, COLLECTOR CURRENT (mA)

Figure 17. Input Impedance



I_C, COLLECTOR CURRENT (mA)

Figure 18. Output Admittance



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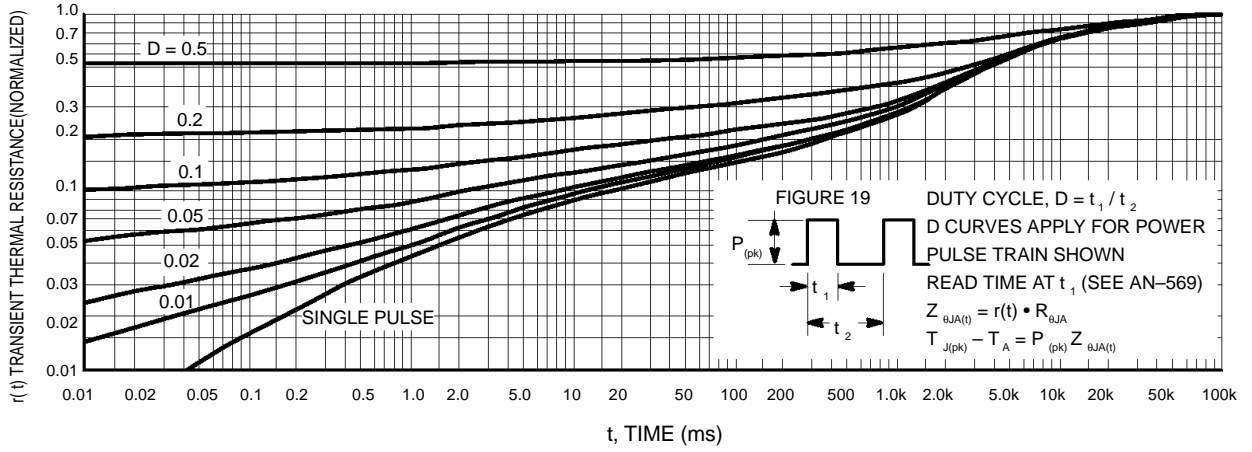


Figure 17. Thermal Response

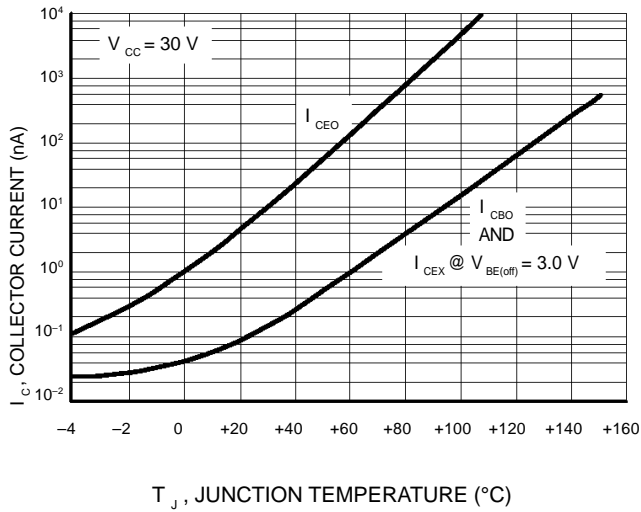


Figure 18. Typical Collector Leakage Current