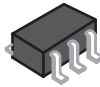


**\* Features**



Power dissipation

$$P_{CM} : 0.15 \text{ W (Tamp.= 25 } ^\circ\text{C)}$$

Collector current

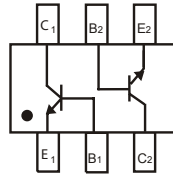
$$I_{CM} : 0.6 \text{ A}$$

Collector-base voltage

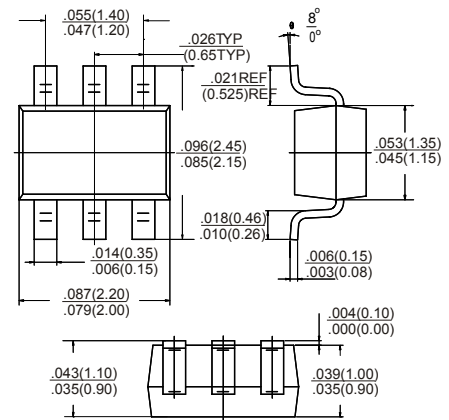
$$V_{(BR)CBO} : 75 \text{ V}$$

Operating & Storage junction Temperature

$$T_j, T_{stg} : -55^\circ\text{C} \sim +150^\circ\text{C}$$



Marking: K1P

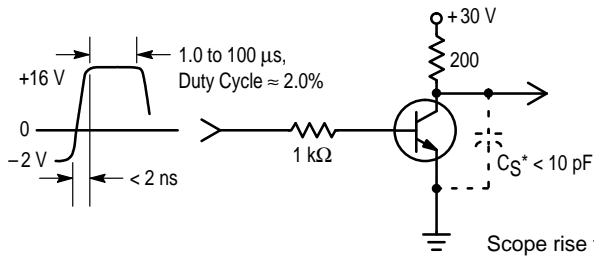


Dimensions in inches and (millimeters)

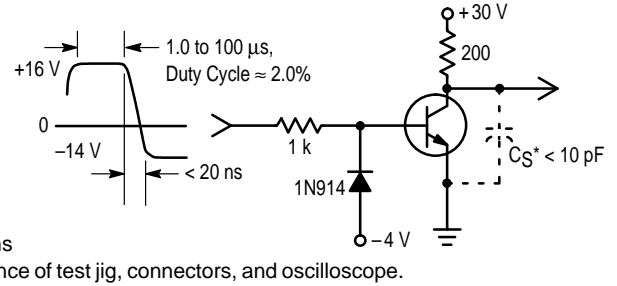
**Electrical Characteristics( Tamb=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10 \mu\text{A}, I_E = 0$	75		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}, I_B = 0$	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10 \mu\text{A}, I_C = 0$	6		V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 60 \text{V}, I_E = 0$		0.01	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 3 \text{V}, I_C = 0$		0.01	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE} = 10\text{V}, I_C = 0.1\text{mA}$	35		
	$h_{FE(2)}$	$V_{CE} = 10\text{V}, I_C = 1\text{mA}$	50		
	$h_{FE(3)}$	$V_{CE} = 10\text{V}, I_C = 10\text{mA}$	75		
	$h_{FE(4)}$	$V_{CE} = 10\text{V}, I_C = 150\text{mA}$	100	300	
	$h_{FE(5)}$	$V_{CE} = 10\text{V}, I_C = 500\text{mA}$	40		
	$h_{FE(6)}$	$V_{CE} = 1\text{V}, I_C = 150\text{mA}$	35		
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C = 150 \text{mA}, I_B = 15\text{mA}$		0.3	V
	$V_{CE(sat)2}$	$I_C = 500 \text{mA}, I_B = 50\text{mA}$		1	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	$I_C = 150 \text{mA}, I_B = 15\text{mA}$	0.6	1.2	V
	$V_{BE(sat)2}$	$I_C = 500 \text{mA}, I_B = 50\text{mA}$		2	V
Transition frequency	$f_T$	$V_{CE} = 20\text{V}, I_C = 20\text{mA}$ $f = 100\text{MHz}$	300		MHz
Output Capacitance	$C_{ob}$	$V_{CB} = 10\text{V}, I_E = 0$ $f = 1\text{MHz}$		8	pF
Input Capacitance	$C_{ib}$	$V_{EB} = 0.5\text{V}, I_C = 0$ $f = 1\text{MHz}$		25	pF
Noise Figure	NF	$V_{CE} = 10\text{V}, I_C = 100 \mu\text{A}$ $f = 1\text{KHz}, R_s = 1\text{K}\Omega$		4	dB
Delay time	$t_d$	$V_{CC} = 30\text{V}, I_C = 150\text{mA}$		10	nS
Rise time	$t_r$	$V_{BE(off)} = 0.5\text{V}, I_{B1} = 15\text{mA}$		25	nS
Storage time	$t_S$	$V_{CC} = 30\text{V}, I_C = 150\text{mA}$		225	nS
Fall time	$t_f$	$I_{B1} = I_{B2} = 15\text{mA}$		60	nS

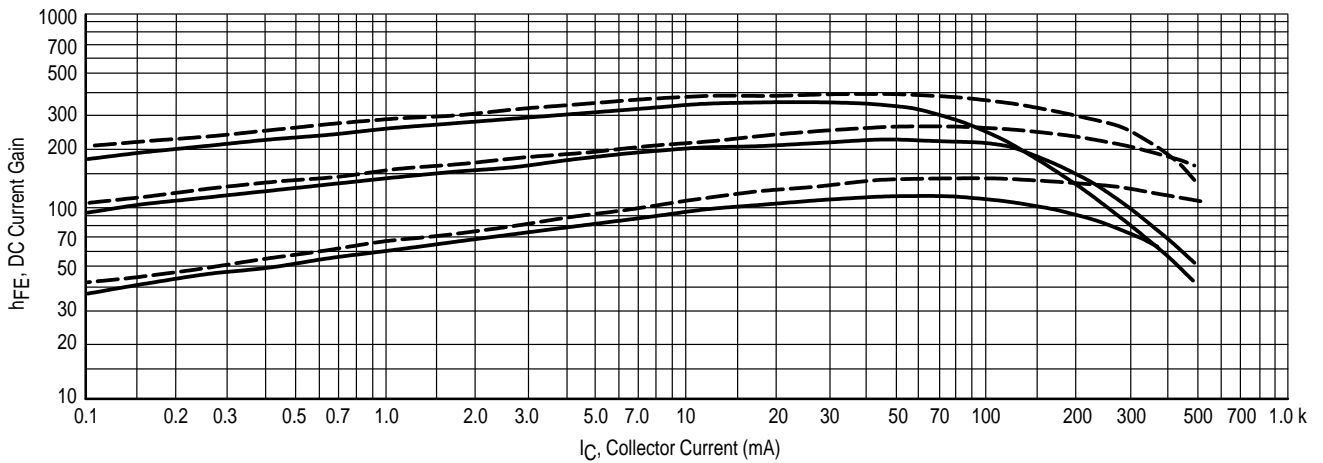
**SWITCHING TIME EQUIVALENT TEST CIRCUITS**



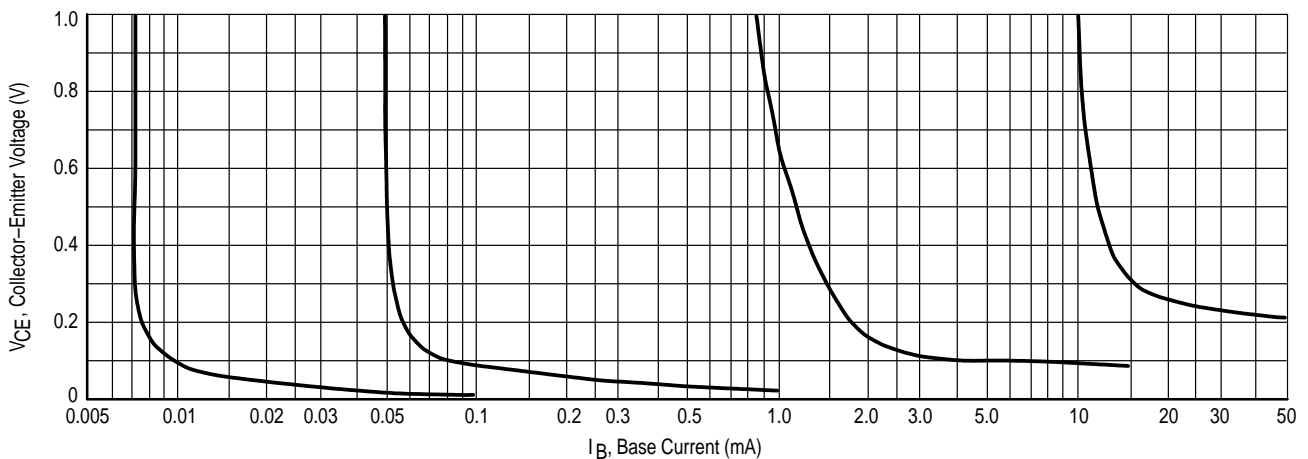
**Figure 1. Turn-On Time**



**Figure 2. Turn-Off Time**



**Figure 3. DC Current Gain**



**Figure 4. Collector Saturation Region**

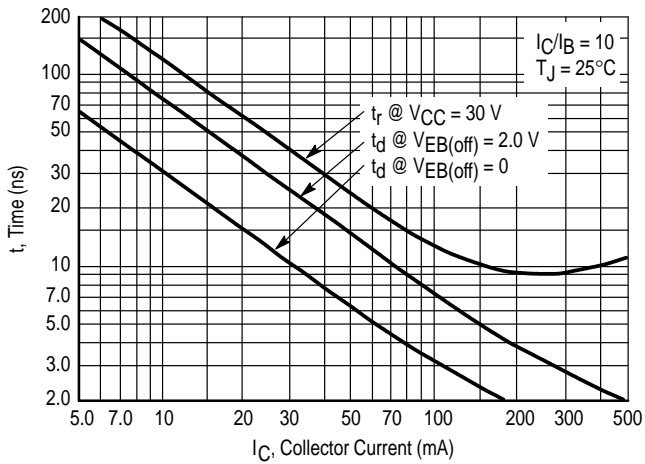


Figure 5. Turn-On Time

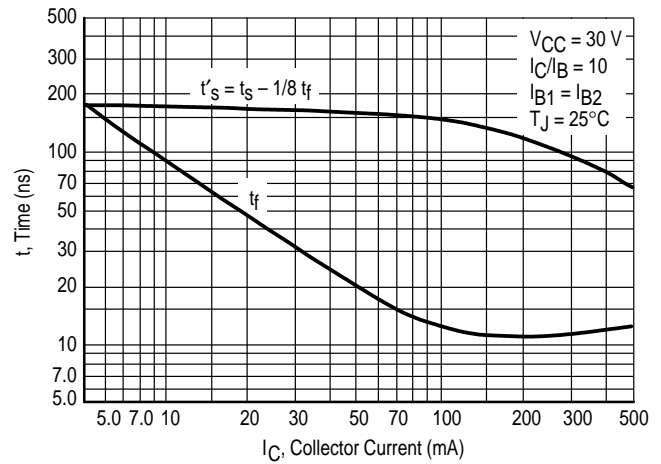


Figure 6. Turn-Off Time

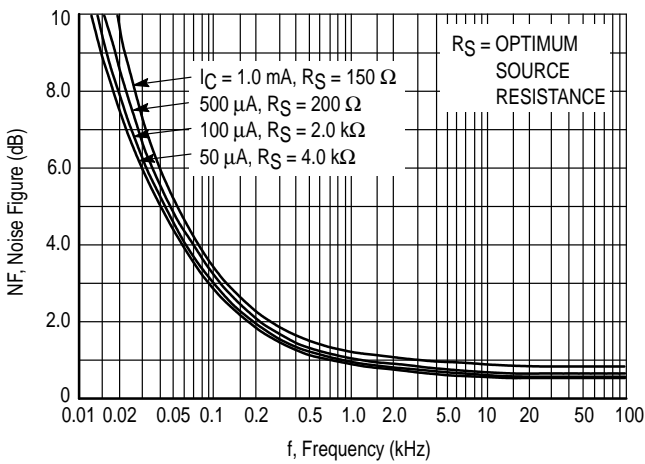


Figure 7. Frequency Effects

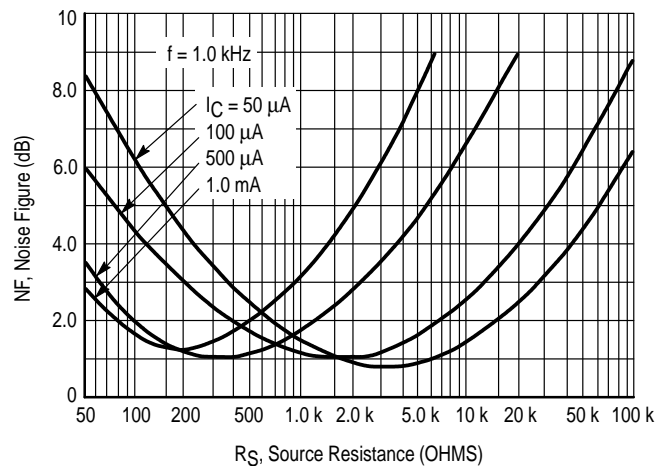


Figure 8. Source Resistance Effects

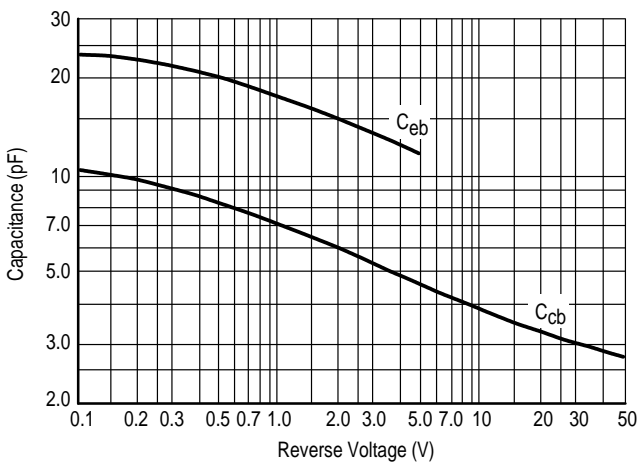


Figure 9. Capacitances

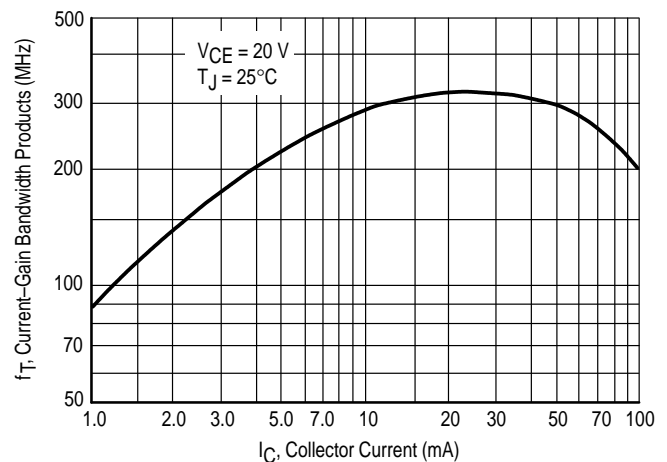
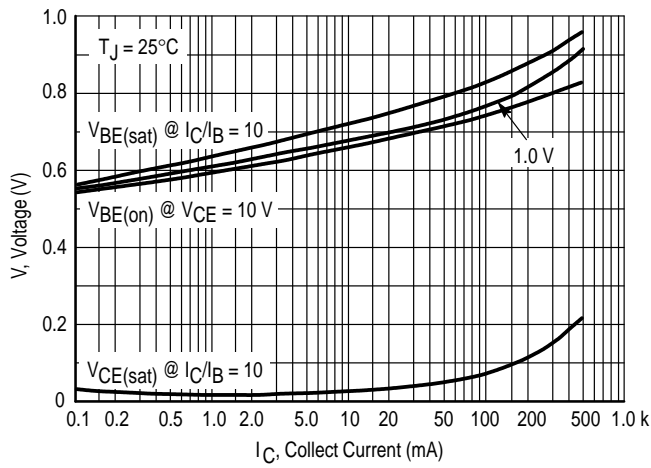
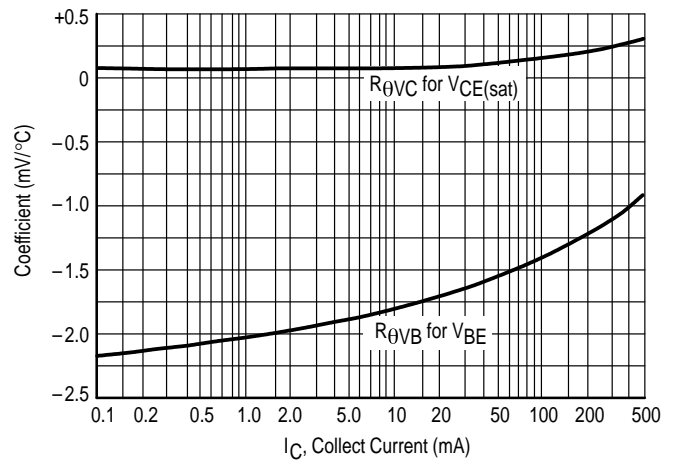


Figure 10. Current-Gain Bandwidth Product



**Figure 11. "On" Voltages**



**Figure 12. Temperature Coefficients**