

RoHS Compliant Product

A suffix of "-C" specifies halogen-free

SOT-363

*** Features**

Power dissipation

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

Collector current

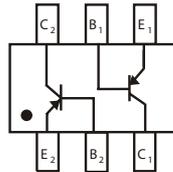
$I_{CM} : -0.6 \text{ A}$

Collector-base voltage

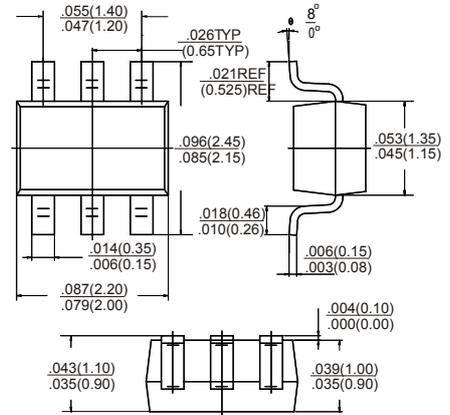
$V_{(BR)CBO} : -60 \text{ V}$

Operating & Storage junction Temperature

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



Marking: K2F, 2F



Dimensions in inches and (millimeters)

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

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -10 \mu\text{A}, I_E = 0$	-60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -10\text{mA}, I_B = 0$	-60		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -10 \mu\text{A}, I_C = 0$	-5		V
Collector cut-off current	I_{CBO}	$V_{CB} = -50 \text{ V}, I_E = 0$		-0.01	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -3\text{V}, I_C = 0$		-0.01	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = -10\text{V}, I_C = -0.1\text{mA}$	75		
	$h_{FE(2)}$	$V_{CE} = -10\text{V}, I_C = -1\text{mA}$	100		
	$h_{FE(3)}$	$V_{CE} = -10\text{V}, I_C = -10\text{mA}$	100		
	$h_{FE(4)}$	$V_{CE} = -10\text{V}, I_C = -150\text{mA}$	100	300	
	$h_{FE(5)}$	$V_{CE} = -10\text{V}, I_C = -500\text{mA}$	50		
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C = -150 \text{ mA}, I_B = -15\text{mA}$		-0.4	V
	$V_{CE(sat)2}$	$I_C = -500 \text{ mA}, I_B = -50\text{mA}$		-1.6	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	$I_C = -150 \text{ mA}, I_B = -15\text{mA}$		-1.3	V
	$V_{BE(sat)2}$	$I_C = -500 \text{ mA}, I_B = -50\text{mA}$		-2.6	V
Transition frequency	f_T	$V_{CE} = -20\text{V}, I_C = -50\text{mA}$ $f = 100\text{MHz}$	200		MHz
Output Capacitance	C_{ob}	$V_{CB} = -10\text{V}, I_E = 0$ $f = 1\text{MHz}$		8	pF
Input Capacitance	C_{ib}	$V_{EB} = -2\text{V}, I_C = 0$ $f = 1\text{MHz}$		30	pF
Delay time	t_d	$V_{CC} = -30\text{V},$ $I_C = -150\text{mA}, I_{B1} = -15\text{mA}$		10	nS
Rise time	t_r			40	nS
Storage time	t_S	$V_{CC} = -6\text{V}, I_C = -150\text{mA}$		225	nS
Fall time	t_f	$I_{B1} = I_{B2} = -15\text{mA}$		60	nS

TYPICAL CHARACTERISTICS

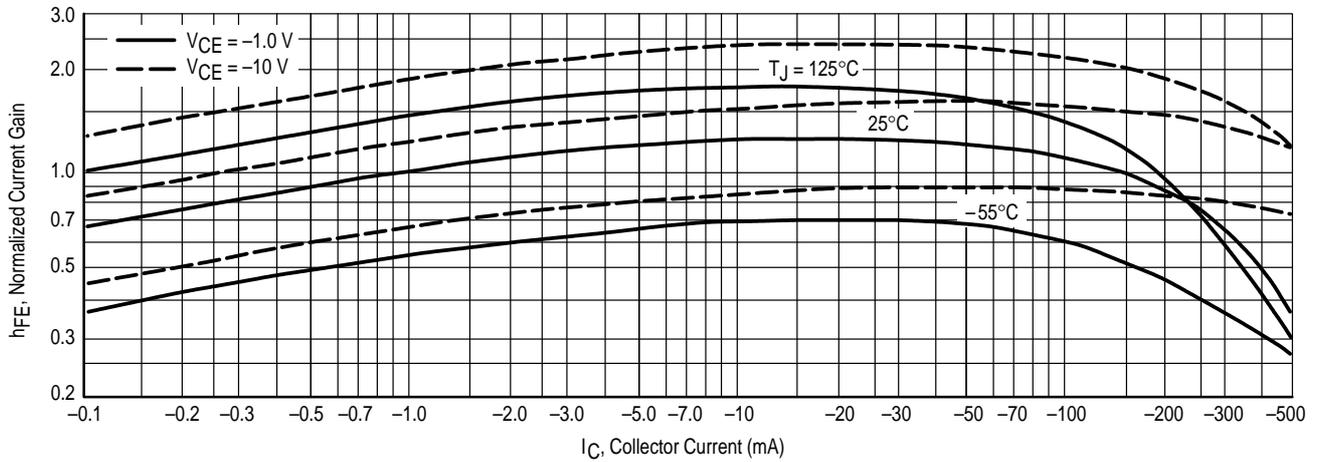


Figure 3. DC Current Gain

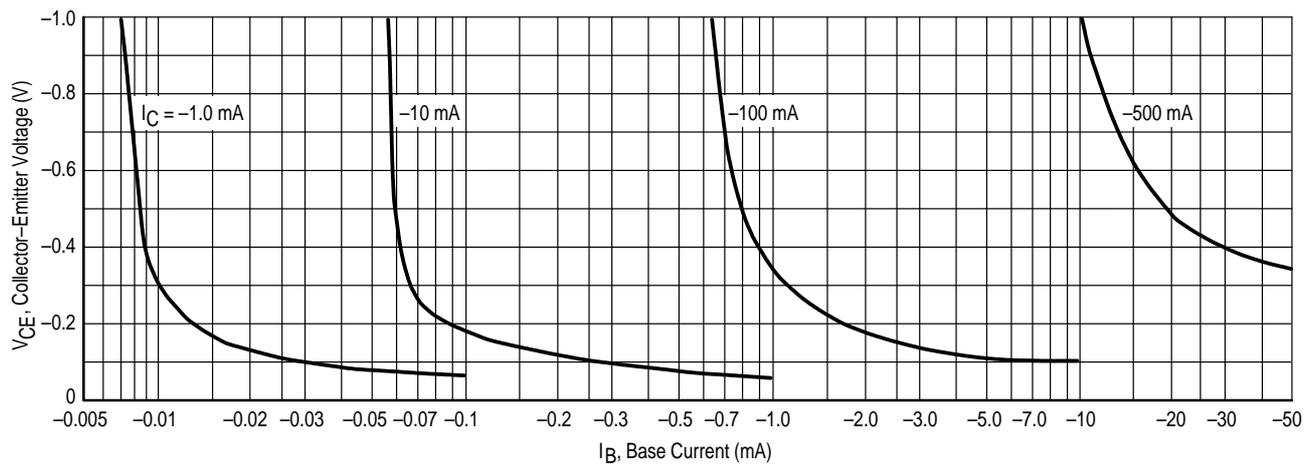


Figure 4. Collector Saturation Region

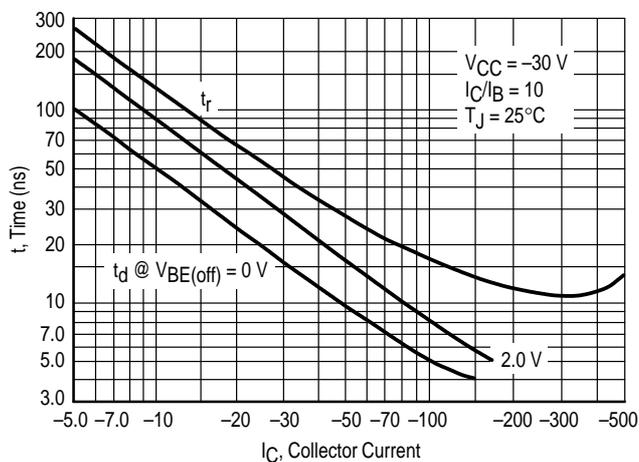


Figure 5. Turn-On Time

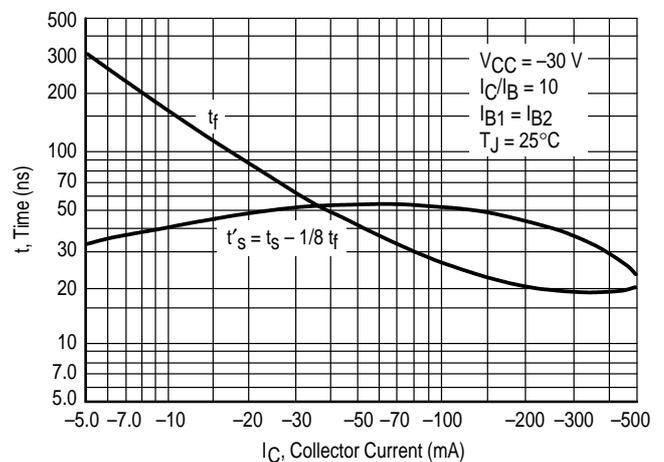


Figure 6. Turn-Off Time

TYPICAL SMALL-SIGNAL CHARACTERISTICS
NOISE FIGURE
 $V_{CE} = 10 \text{ Vdc}$, $T_A = 25^\circ\text{C}$

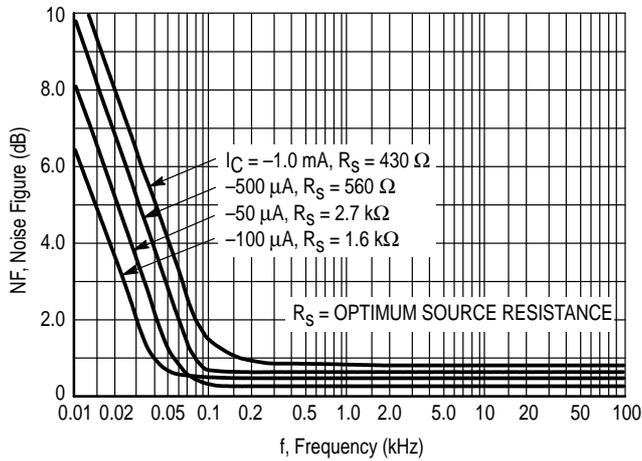


Figure 7. Frequency Effects

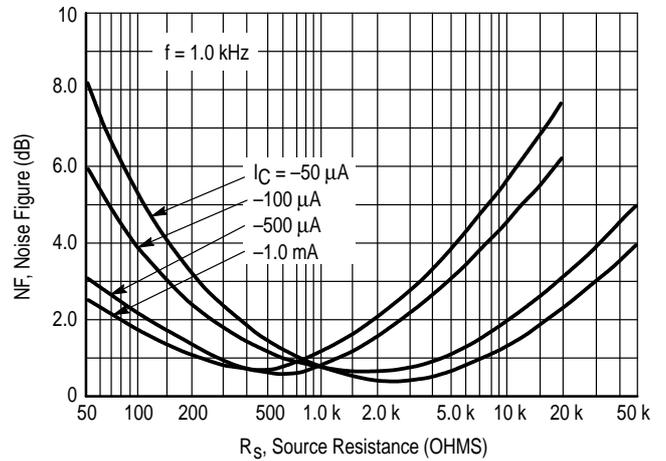


Figure 8. Source Resistance Effects

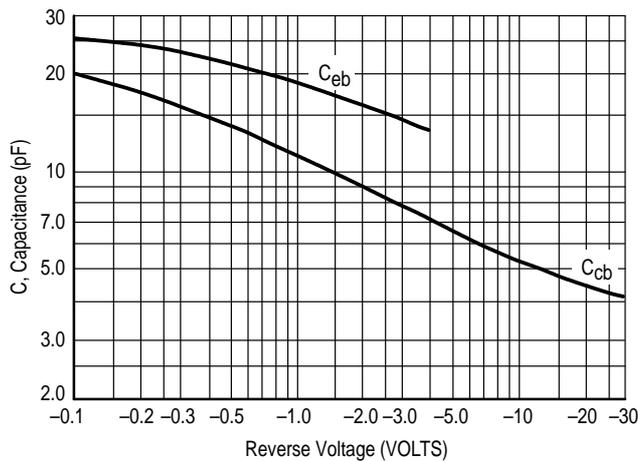


Figure 9. Capacitances

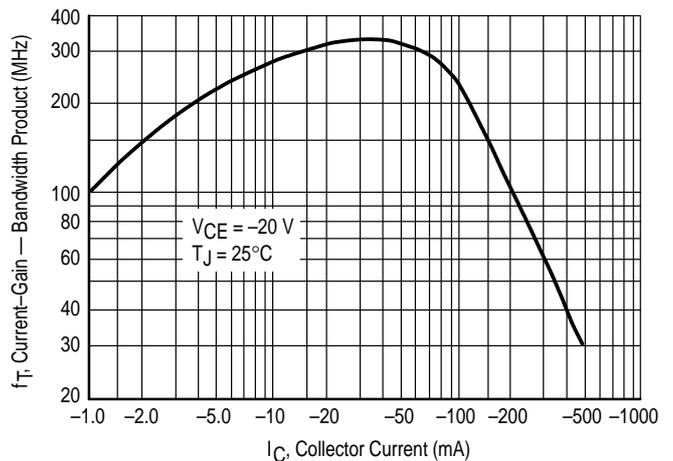


Figure 10. Current-Gain — Bandwidth Product

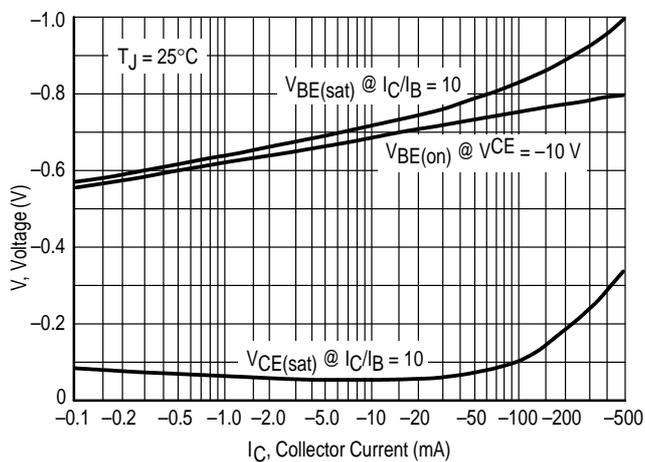


Figure 11. "On" Voltage

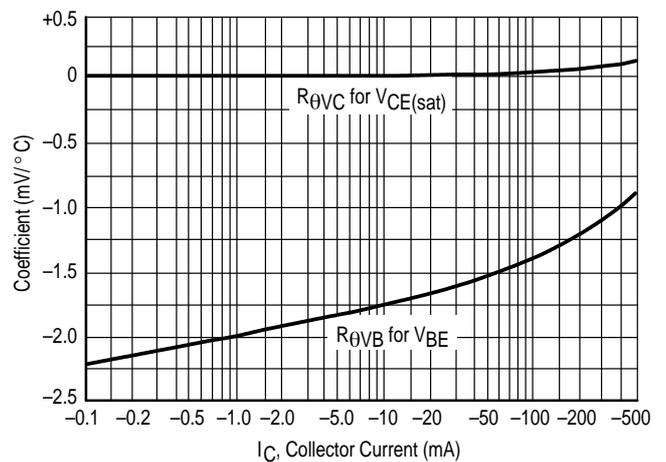


Figure 12. Temperature Coefficients