Elektronische Bauelemente

MMBT2907Q

PNP Silicon

General Purpose Transistor

RoHS Compliant Product

* Features

Power dissipation

P_{CM} : 1.25 W (Temp.= 25°C)

Collector current

I_{CM} : -0.6 A

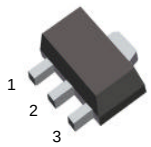
Collector-base voltage

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

Operating & Storage junction Temperature

T_j, T_{stg} : -55°C~ +150°C

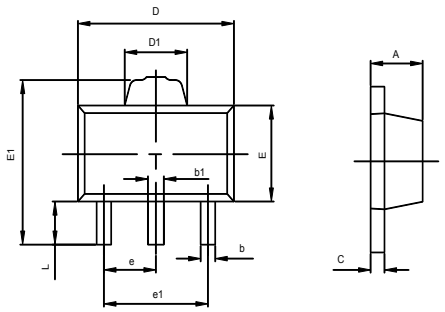
SOT-89



1.BASE

2.COLLECTOR

3.EMITTER



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.360	0.560	0.014	0.022
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.400	1.800	0.055	0.071
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500TYP		0.060TYP	
e1	2.900	3.100	0.114	0.122
L	0.900	1.100	0.035	0.043

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

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	Ic= -10μA, I_E=0	-60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	Ic= -10mA, I_B=0	-60		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-10μA, I_C=0	-5		V
Collector cut-off current	I_{CBO}	V_{CB}=-50 V , I_E=0		-0. 01	μA
Emitter cut-off current	I_{EBO}	V_{EB}= -3V , I_C=0		-0. 01	μA
DC current gain	$h_{FE(1)}$	V_{CE}=-1V, I_C= -0.1mA	75		
	$h_{FE(2)}$	V_{CE}=-1V, I_C= -1mA	100		
	$h_{FE(3)}$	V_{CE}=-1V, I_C=-10mA	100		
	$h_{FE(4)}$	V_{CE}=-2V, I_C= -150mA	100	300	
	$h_{FE(5)}$	V_{CE}=-2V, I_C=-500mA	50		
Collector-emitter saturation voltage	V_{CE}(sat)1	I_C=-150 mA, I_B=-15mA		-0.4	V
	V_{CE}(sat)2	I_C=-500 mA, I_B=- 50mA		-1.6	V
Base-emitter saturation voltage	V_{BE}(sat)1	I_C=-150 mA, I_B=-15mA		-1.3	V
	V_{BE}(sat)2	I_C=-500 mA, I_B= -50mA		-2.6	V
Transition frequency	f_T	V_{CE}=-20V, I_C= -50mA f=100MHz	200		MHz
Output Capacitance	C_{ob}	V_{CB}=-10V, I_E= 0 f=1MHz		8	pF
Input Capacitance	C_{ib}	V_{EB}=-2V, I_C= 0 f=1MHz		30	pF
Delay time	t_d	V_{CC}=-30V, I_C=-150mA,I_{B1}=-15mA		12	nS
Rise time	t_r			30	nS
Storage time	t_S	I_C=-150mA I_{B1}= I_{B2}= -15mA		300	nS
Fall time	t_f			65	nS

TYPICAL CHARACTERISTICS

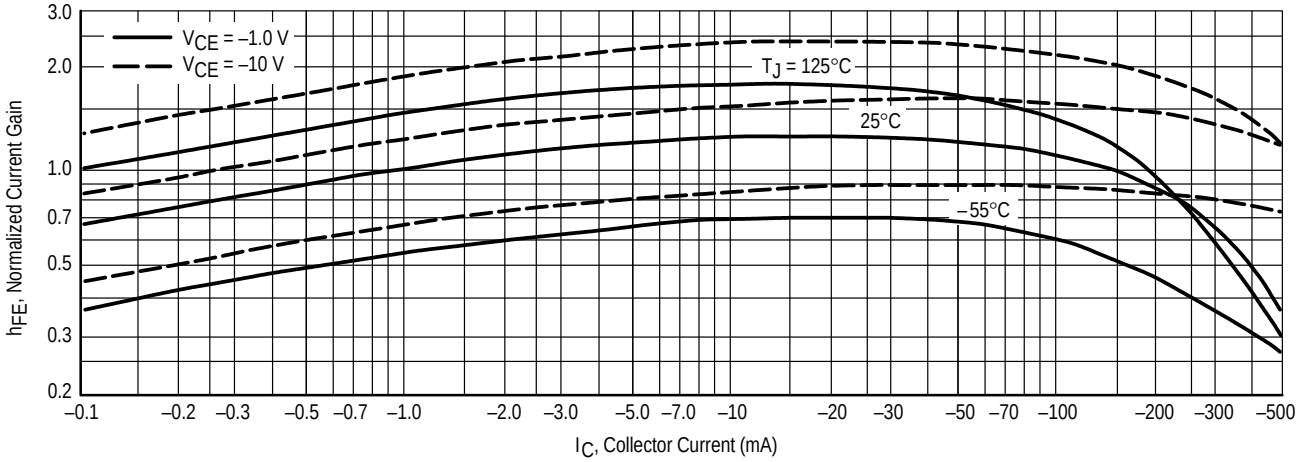


Figure 3. DC Current Gain

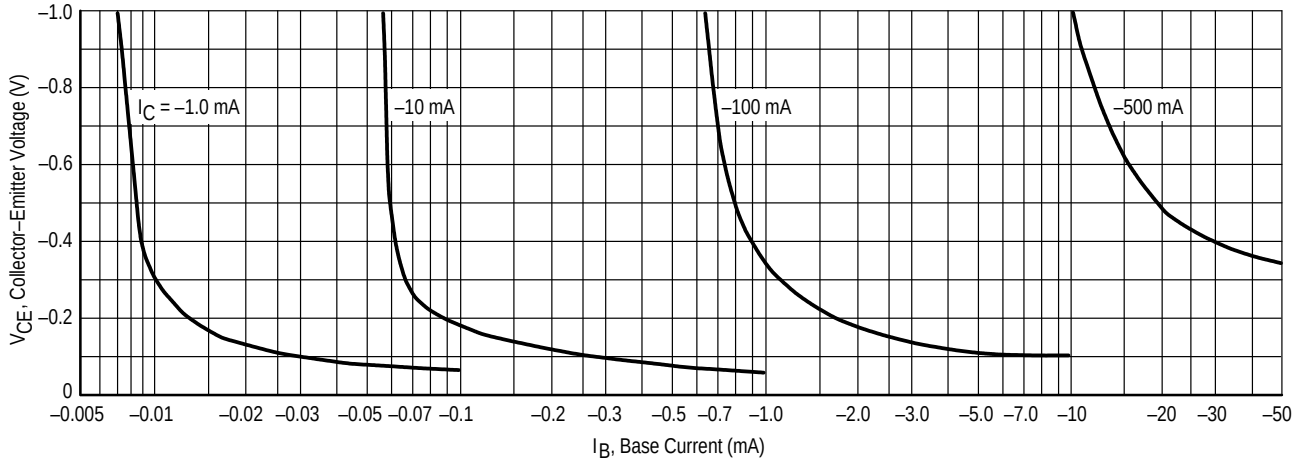


Figure 4. Collector Saturation Region

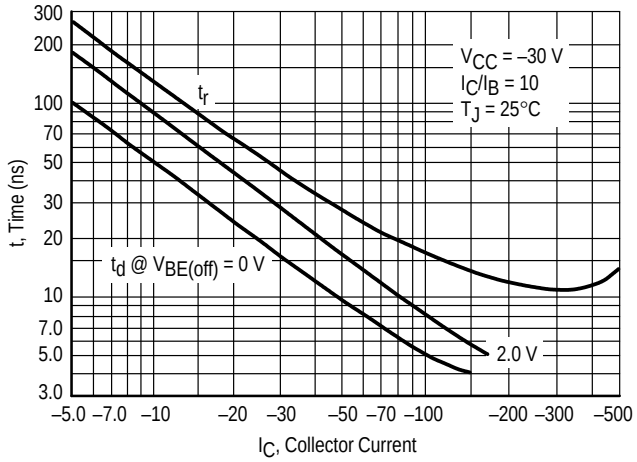


Figure 5. Turn–On Time

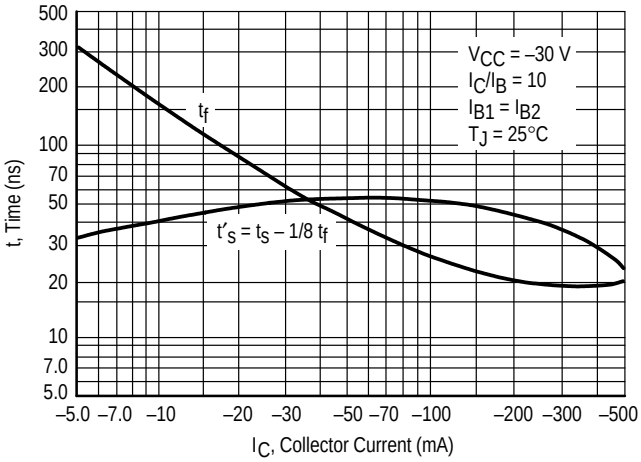


Figure 6. Turn–Off Time

TYPICAL SMALL–SIGNAL CHARACTERISTICS
NOISE FIGURE
V_{CE} = 10 Vdc, T_A = 25°C

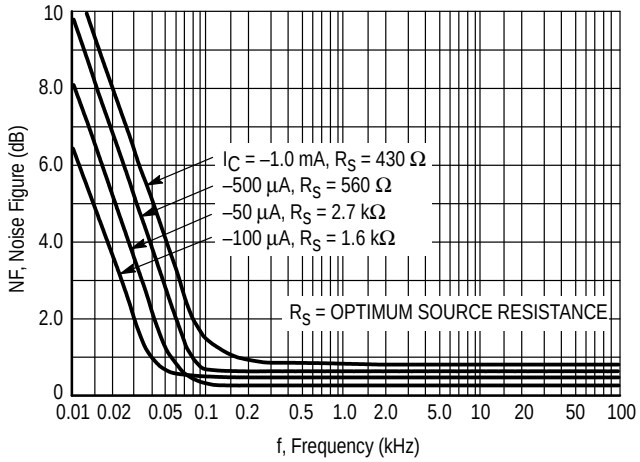


Figure 7. Frequency Effects

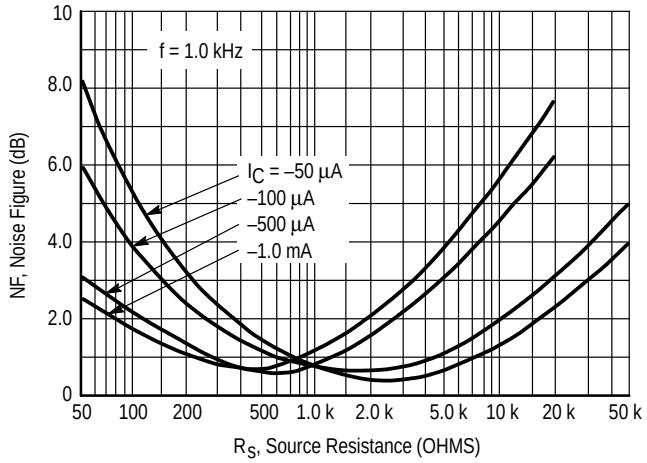


Figure 8. Source Resistance Effects

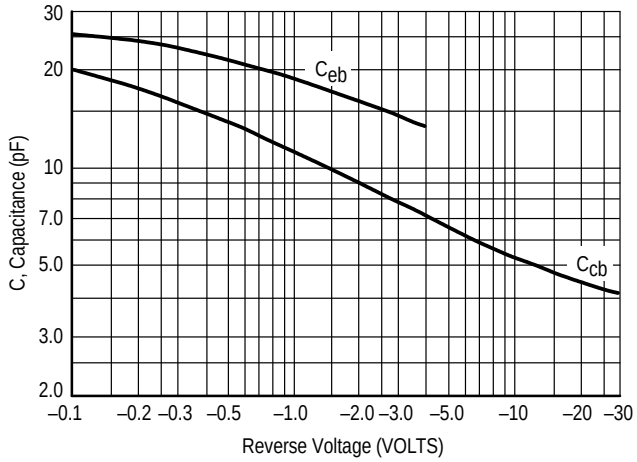


Figure 9. Capacitances

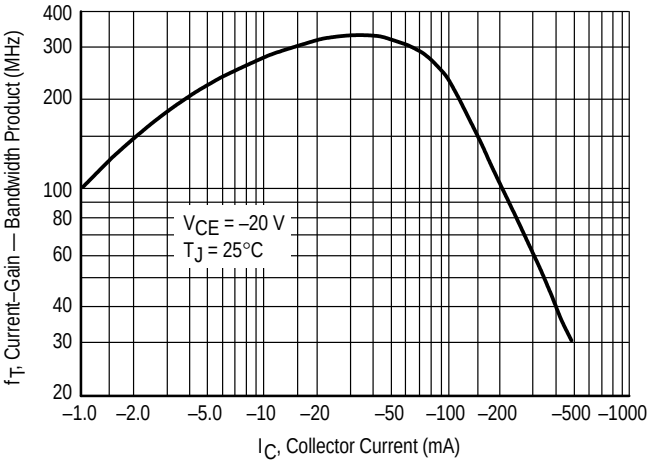


Figure 10. Current–Gain — Bandwidth Product

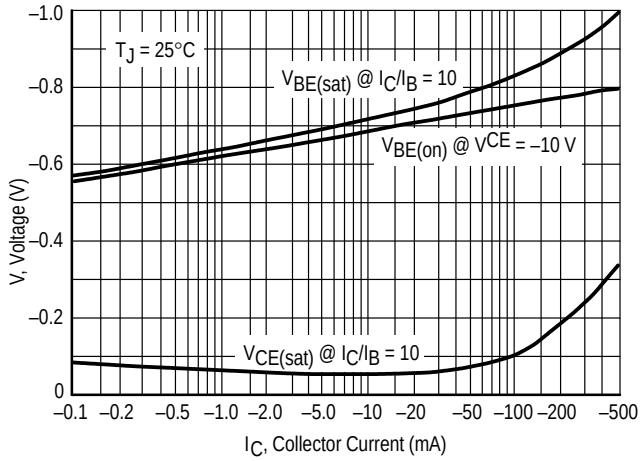


Figure 11. "On" Voltage

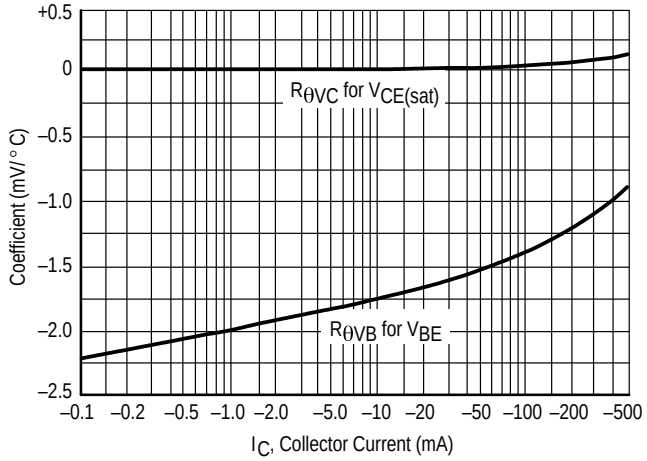


Figure 12. Temperature Coefficients