

ELECTRICAL CHARACTERISTICS (@T_A=25°C unless otherwise noted)

Chatacteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage (2) (I _C = -1.0 mAdc, I _B = 0)	V _{(BR)CEO}	-40	-	Vdc
Collector-Base Breakdown Voltage (I _C = -100uAdc, I _E = 0)	V _{(BR)CBO}	-40	-	Vdc
Emitter-Base Breakdown Voltage (I _E = -100uAdc, I _C = 0)	V _{(BR)EBO}	-5.0	-	Vdc
Base Cutoff Current (V _{CE} = -30Vdc, V _{EB} = -3.0Vdc)	I _{BL}	-	-50	nAdc
Collector Cutoff Current (V _{CE} = -30Vdc, V _{EB} = -3.0Vdc)	I _{CEX}	-	-50	nAdc

ON CHARACTERISTICS(1)

DC Current Gain (I _C = -0.1mAdc, V _{CE} = -1.0Vdc)	h _{FE}	60	-	-
(I _C = -1.0mAdc, V _{CE} = -1.0Vdc)		80	-	
(I _C = -10mAdc, V _{CE} = -1.0Vdc)		100	300	
(I _C = -50mAdc, V _{CE} = -1.0Vdc)		60	-	
(I _C = -100mAdc, V _{CE} = -1.0Vdc)		30	-	
Collector-Emitter Saturation Voltage (I _C = -10mAdc, I _B = -1.0mAdc)	V _{CE(sat)}	-	-0.25	Vdc
(I _C = -50mAdc, I _B = -5.0mAdc)		-	-0.4	
Base-Emitter Saturation Voltage (I _C = -10mAdc, I _B = -1.0mAdc)	V _{BE(sat)}	-0.65	-0.85	Vdc
(I _C = -50mAdc, I _B = -5.0mAdc)		-	-0.95	

SMALL-SIGNAL CHARACTERISTICS

Current-Gain-Bandwidth Product (I _C = -10mAdc, V _{CE} = -20Vdc, f= 100MHz)	f _T	250	-	MHz
Output Capacitance (V _{CB} = -5.0Vdc, I _E = 0, f= 1.0MHz)	C _{obo}	-	4.5	pF
Input Capacitance (V _{EB} = -0.5Vdc, I _C = 0, f= 1.0MHz)	C _{ibo}	-	10	pF
Input Impedance (V _{CE} = -10Vdc, I _C = -1.0mAdc, f= 1.0kHz)	h _{ie}	2.0	12	kΩ
Voltage Feedback Ratio (V _{CE} = -10Vdc, I _C = -1.0mAdc, f= 1.0kHz)	h _{re}	0.1	10	X 10 ⁻⁴
Small-Signal Current Gain (V _{CE} = -10Vdc, I _C = -10mAdc, f= 1.0kHz)	h _{fe}	100	400	-
Output Admittance (V _{CE} = -10Vdc, I _C = -1.0mAdc, f= 1.0kHz)	h _{oe}	3.0	60	umhos
Noise Figure (V _{CE} = -5.0Vdc, I _C = -100uAdc, RS= 1.0kΩ, f= 1.0kHz)	NF	-	4.0	dB

SWITCHING CHARACTERISTICS

Delay Time	(V _{CC} = -3.0Vdc, V _{BE} = 0.5Vdc, I _C = -10mAdc, I _{B1} = -1.0mAdc)	t _d	-	35	ns
Rise Time		t _r	-	35	
Storage Time	(V _{CC} = -3.0Vdc, I _C = -10mAdc, I _{B1} = I _{B2} = -1.0mAdc)	t _s	-	225	ns
Fall Time		t _f	-	75	

Note : Pulse Test: Pulse Width≤300ms,Duty Cycle≤2.0%



RATING AND CHARACTERISTICS CURVES (MMBT3906)

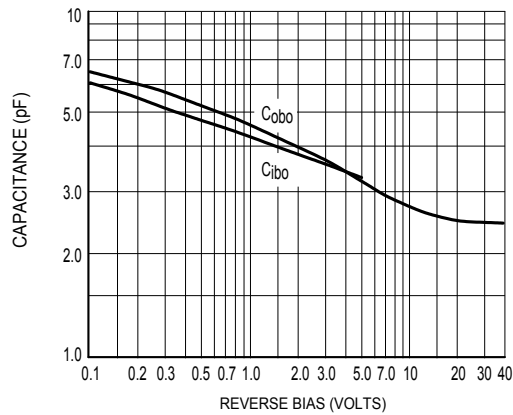


Figure 1 Capacitance

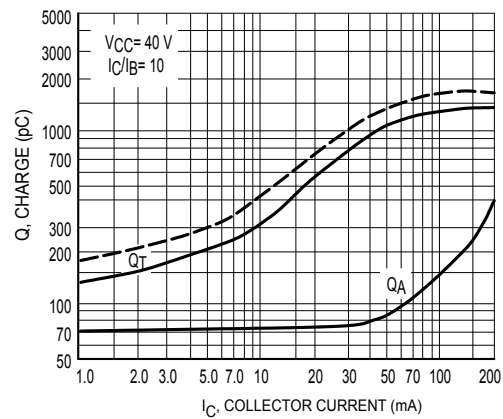


Figure 2 Charge Data

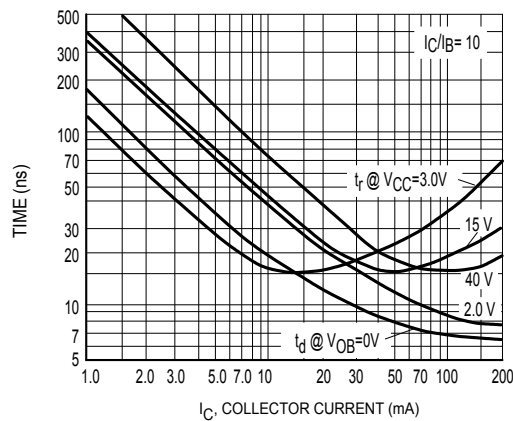


Figure 3 Turn-On Time

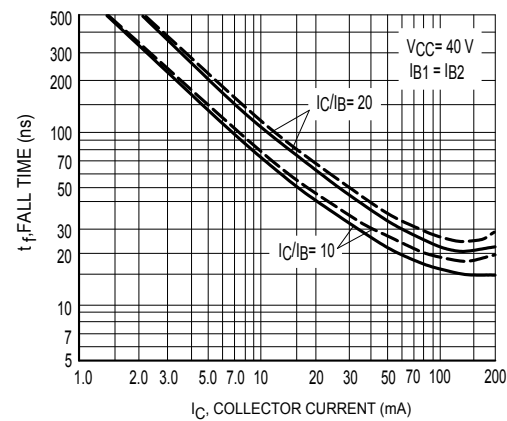


Figure 4 Fall Time

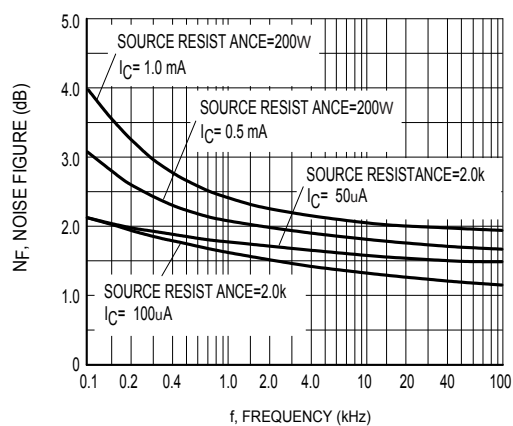


Figure 5

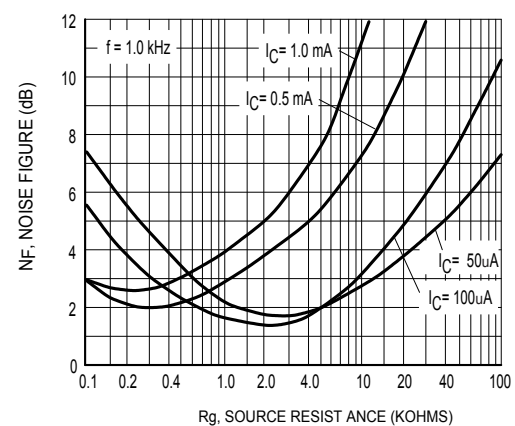


Figure 6

RATING AND CHARACTERISTICS CURVES (MMBT3906)

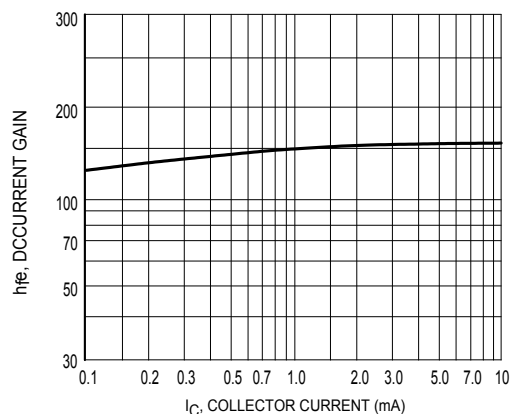


Figure 7 Current Gain

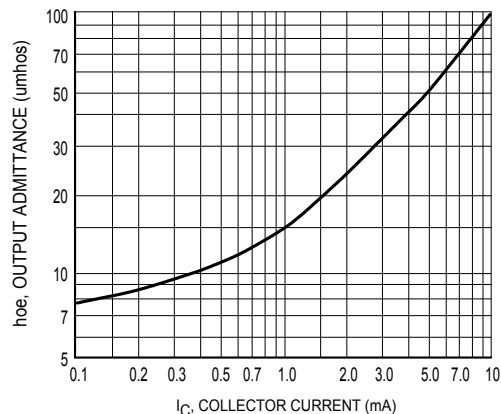


Figure 8 Output Admittance

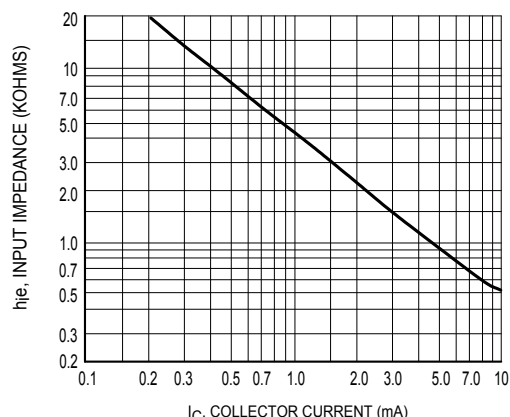


Figure 9 Input Impedance

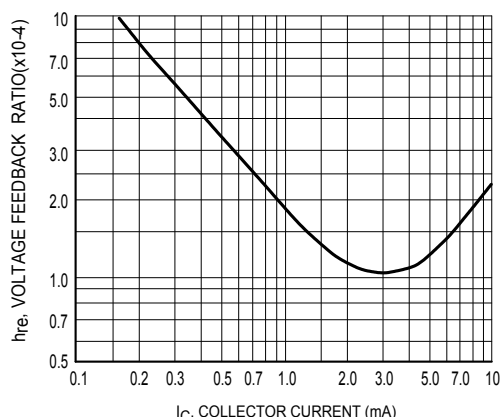


Figure 10 Voltage Feedback Ratio

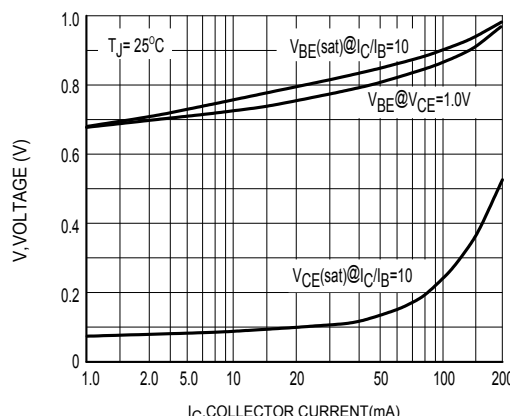


Figure 11 "ON" Voltages

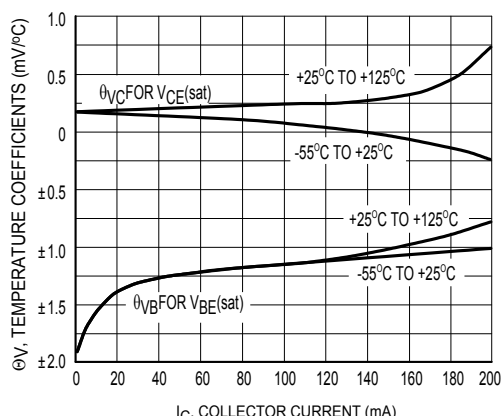


Figure 12 Temperature Coefficients



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