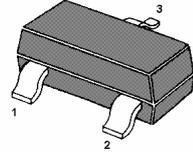


# MMBT9018G / MMBT9018H

## NPN Silicon Epitaxial Planar Transistor

for AM/FM amplifier and local oscillator of  
FM/VHF tuner applications



1. Base 2. Emitter 3. Collector

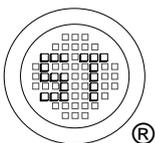
SOT-23 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	30	V
Collector Emitter Voltage	$V_{CEO}$	15	V
Emitter Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	50	mA
Power Dissipation	$P_{tot}$	200	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_S$	- 55 to + 150	$^\circ\text{C}$

### Electrical Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$ , $I_C = 1\text{ mA}$	MMBT9018G $h_{FE}$	75	-	105	-
	MMBT9018H $h_{FE}$	105	-	190	-
Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	$V_{(BR)CBO}$	30	-	-	V
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	15	-	-	V
Emitter Base Breakdown Voltage at $I_E = 100\text{ }\mu\text{A}$	$V_{(BR)EBO}$	5	-	-	V
Collector Cutoff Current at $V_{CB} = 12\text{ V}$	$I_{CBO}$	-	-	50	nA
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$ , $I_B = 1\text{ mA}$	$V_{CE(sat)}$	-	-	0.5	V
Gain Bandwidth Product at $V_{CE} = 5\text{ V}$ , $I_C = 5\text{ mA}$	$f_T$	700	1100	-	MHz
Collector Base Capacitance at $V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{CBO}$	-	1.3	1.7	pF



**SEMTECH ELECTRONICS LTD.**

(Subsidiary of Sino-Tech International Holdings Limited, a company  
listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
Certificate No. 05103



ISO 14001:2004  
Certificate No. 7116

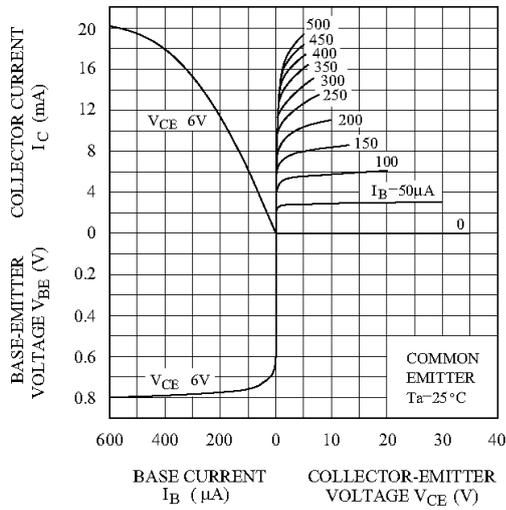


ISO 9001:2000  
Certificate No. 0506098

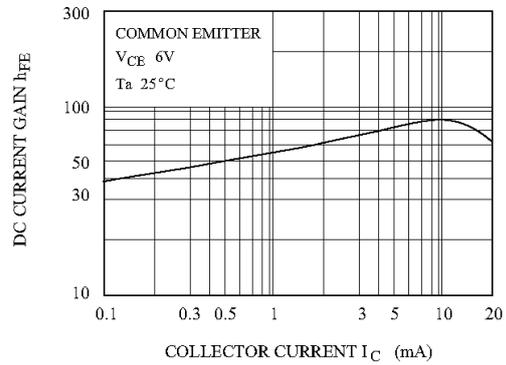
Dated : 20/02/2006

# MMBT9018G / MMBT9018H

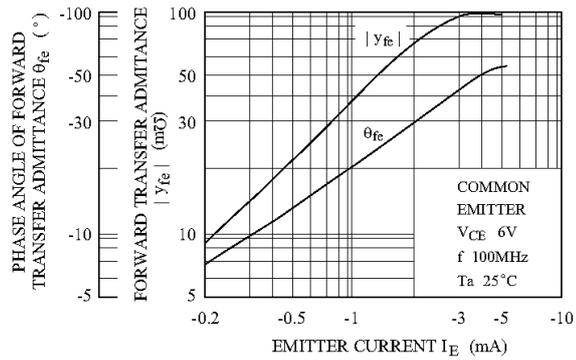
STATIC CHARACTERISTICS



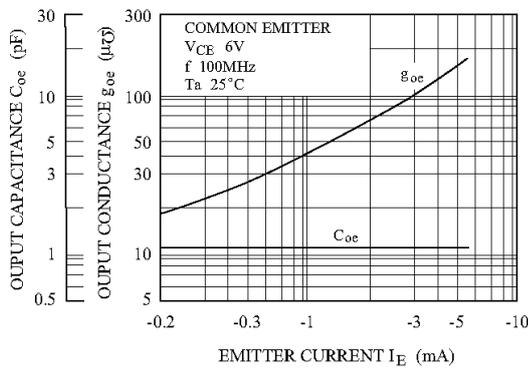
$h_{FE} - I_C$



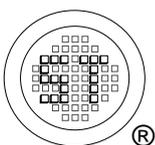
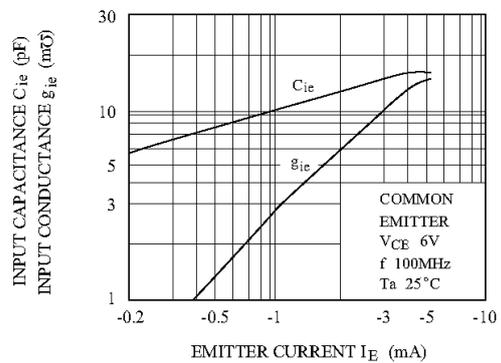
$|y_{fe}|, \theta_{fe} - I_E$



$C_{oe}, g_{oe} - I_E$



$C_{ie}, g_{ie} - I_E$



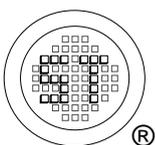
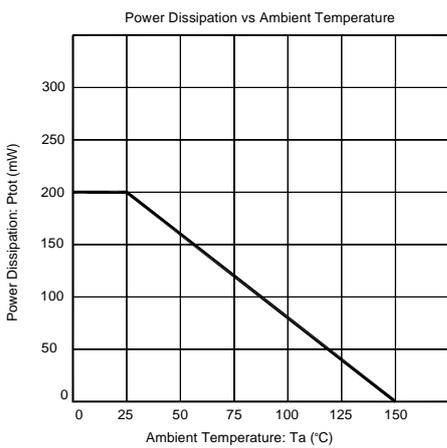
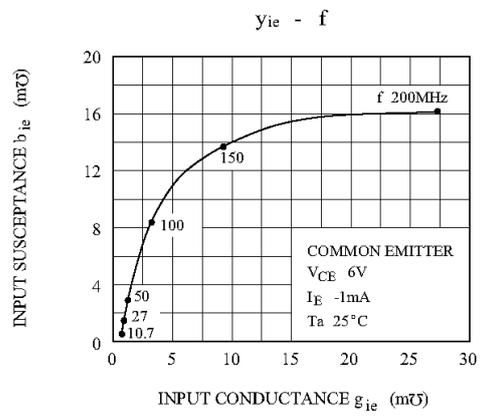
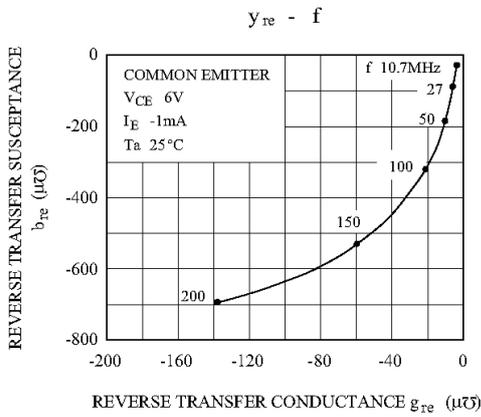
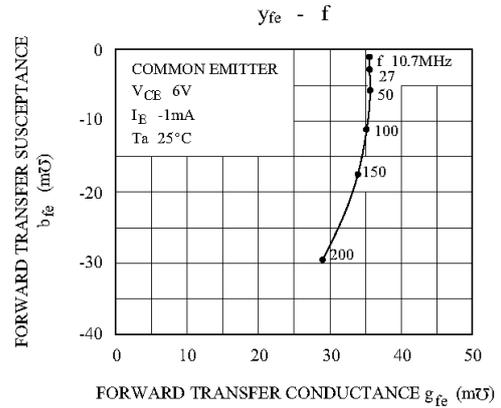
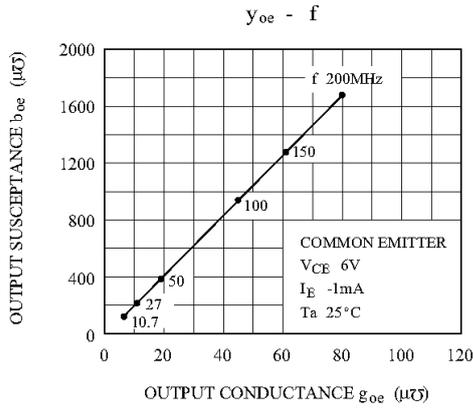
**SEMTECH ELECTRONICS LTD.**

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002 Certificate No. 05103  
 ISO 14001:2004 Certificate No. 7116  
 ISO 9001:2000 Certificate No. 0506098

# MMBT9018G / MMBT9018H



**SEMTECH ELECTRONICS LTD.**  
 (Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002 Certificate No. 05103  
 ISO 14001:2004 Certificate No. 7116  
 ISO 9001:2000 Certificate No. 0506098