



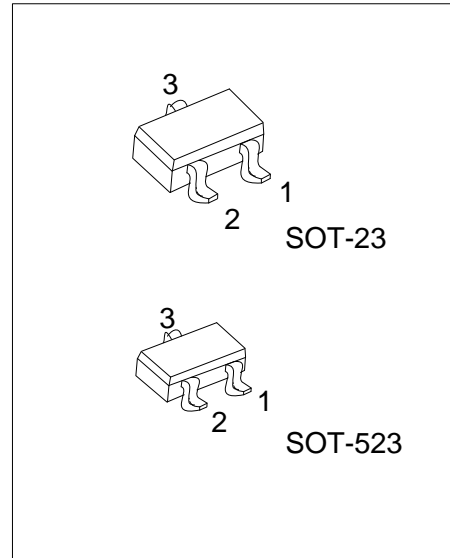
## MMBT9018

### NPN SILICON TRANSISTOR

AM/FM AMPLIFIER, LOCAL  
OSCILLATOR OF FM/VHF  
TUNER

#### FEATURES

- \* High Current Gain Bandwidth Product  
 $f_T=1.1\text{GHz}$  (Typ)

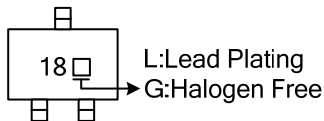


#### ORDERING INFORMATION

Ordering Number			Package	Pin Assignment			Packing
Normal	Lead Free Plating	Halogen Free		1	2	3	
MMBT9018-x-AE3-R	MMBT9018L-x-AE3-R	MMBT9018G-x-AE3-R	SOT-23	E	B	C	Tape Reel
MMBT9018-x-AN3-R	MMBT9018L-x-AN3-R	MMBT9018G-x-AN3-R	SOT-523	E	B	C	Tape Reel

<p>MMBT9018L-x-AE3-R</p> <p>(1) Packing Type (2) Package Type (2) Package Type (3) Lead Plating</p>	<p>(1) R: Tape Reel (2) AE3: SOT-23, AN3: SOT-523 (3) x: refer to Classification of <math>h_{FE}</math> (4) L: Lead Free Plating, Blank: Pb/Sn G: Halogen Free</p>
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#### MARKING



■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	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
Collector Power Dissipation	SOT-23	$P_c$	225	mW
	SOT-523		150	mW
Junction Temperature		$T_J$	+150	°C
Storage Temperature		$T_{STG}$	-55 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

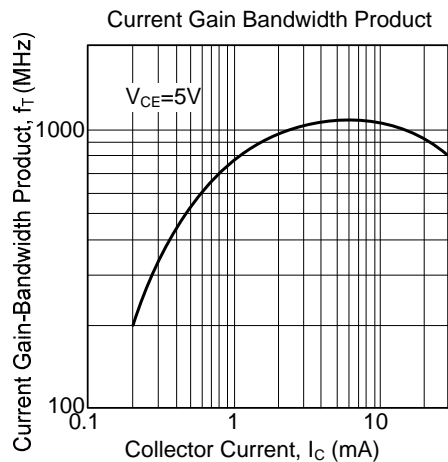
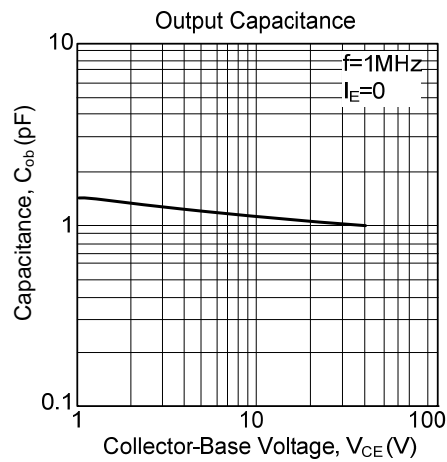
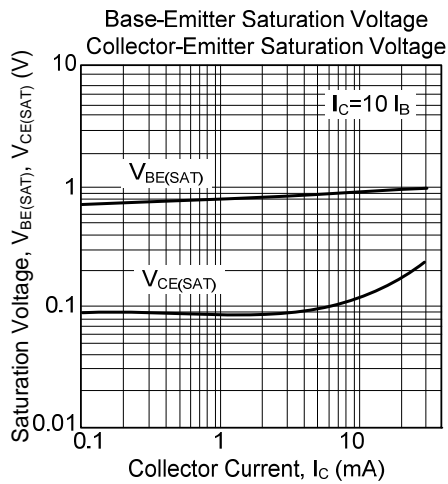
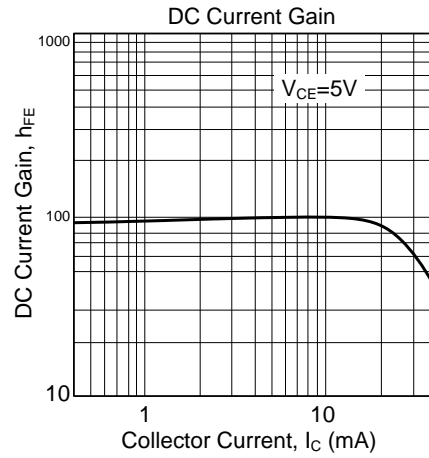
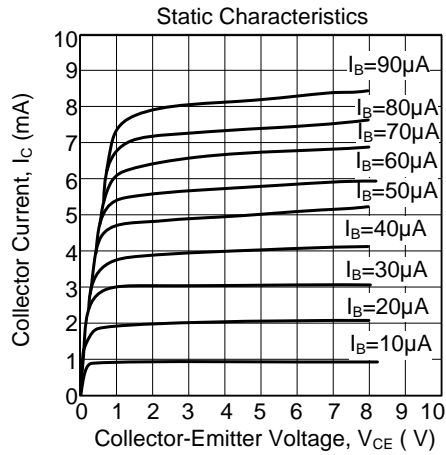
■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C=100\mu A, I_E=0$	30			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=1mA, I_B=0$	15			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E=100\mu A, I_C=0$	5			V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=12V, I_E=0$			50	nA
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=10mA, I_B=1mA$			0.5	V
DC Current Gain	$h_{FE}$	$V_{CE}=5V, I_C=1mA$	28	100	198	
Current Gain Bandwidth Product	$f_T$	$V_{CE}=5V, I_C=5mA$	700	1100		MHz
Output Capacitance	$C_{OB}$	$V_{CB}=10V, I_E=0, f=1MHz$		1.3	1.7	pF

■ CLASSIFICATION of  $h_{FE}$

RANK	D	E	F	G	H	I	J
RANGE	28-45	39-60	54-80	72-108	97-146	132-198	180-265

## TYPICAL CHARACTERISTICS



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