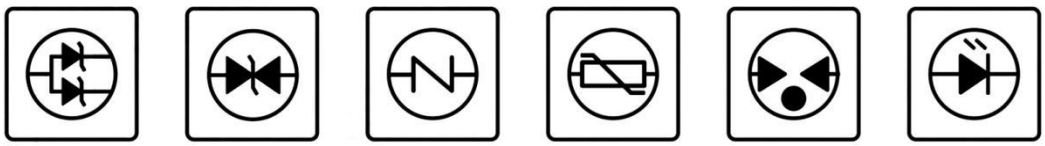
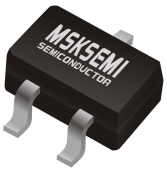
MSKSEMI
SEMICONDUCTOR



Product data sheet

www.msksemi.com



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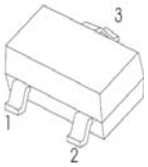


1. BASE
2. EMITTER
3. COLLECTOR

TRANSISTOR (NPN)

FEATURES

- AM/FM Amplifier, Local Oscillator of FM/VHF Tuner
- High Current Gain Bandwidth Product

MARKING：J8

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	15	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	50	mA
P_C	Collector Power Dissipation	200	mW
R_{dJA}	Thermal Resistance from Junction to Ambient	625	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55-150	℃

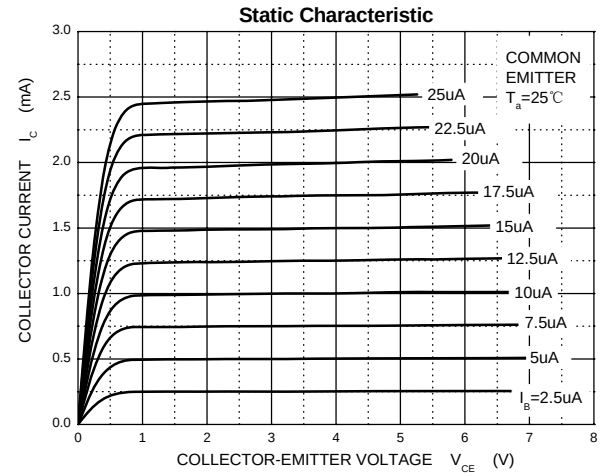
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

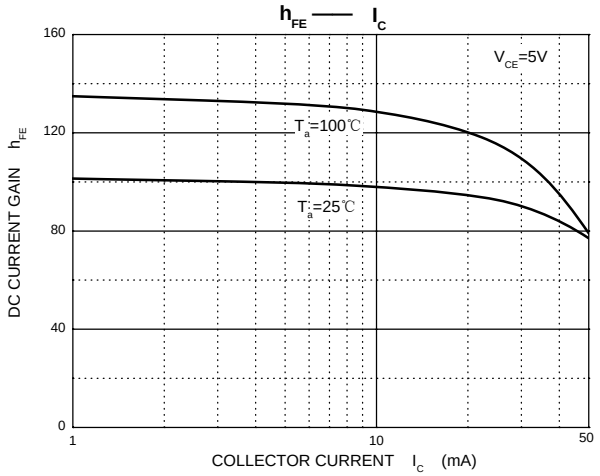
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 100μA, I_E=0	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= 1mA, I_B=0	15			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=12V, I_E=0			0.05	μA
Collector cut-off current	I_{CEO}	V_{CE}=12V, I_B=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}= 3V, I_C=0			0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=5V, I_C= 1mA	70		200	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=10mA, I_B= 1mA			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=10mA, I_B= 1mA			1.4	V
Transition frequency	f_T	V_{CE}=5V, I_C= 5mA f=400MHz		800		MHz

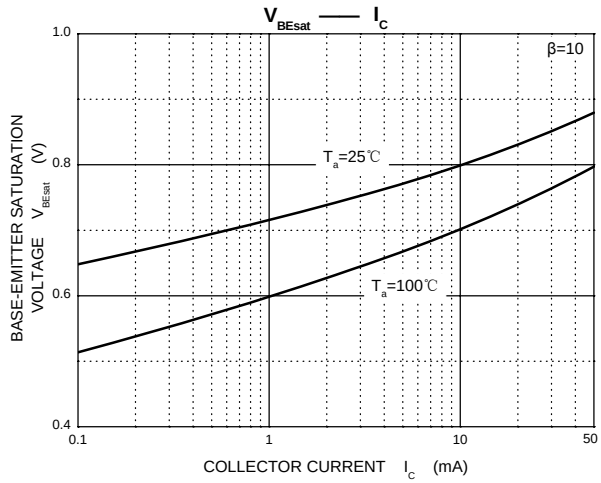
CLASSIFICATION OF h_{FE}

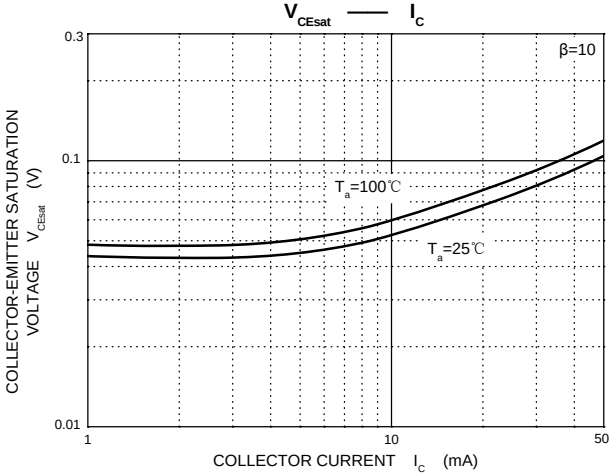
Rank	L	H
Range	70-100	100-200

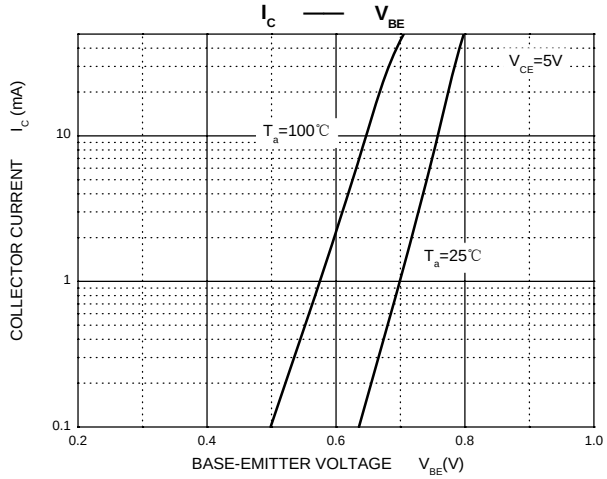
Typical Characteristics

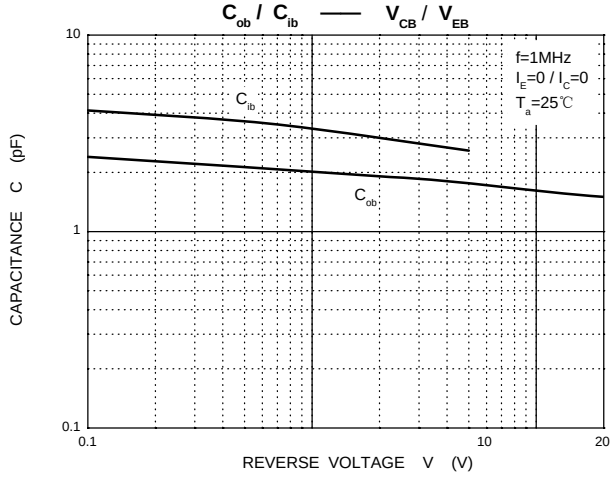


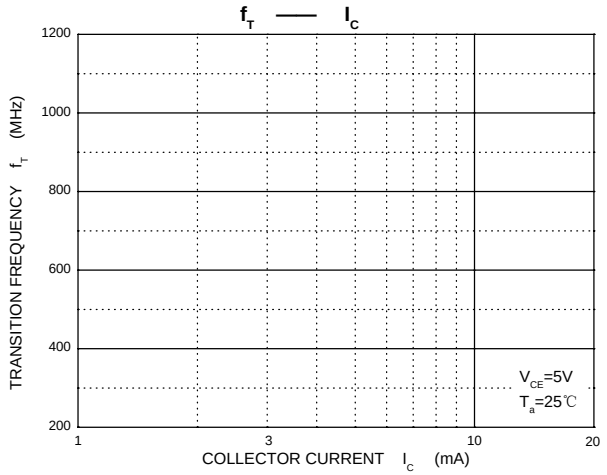


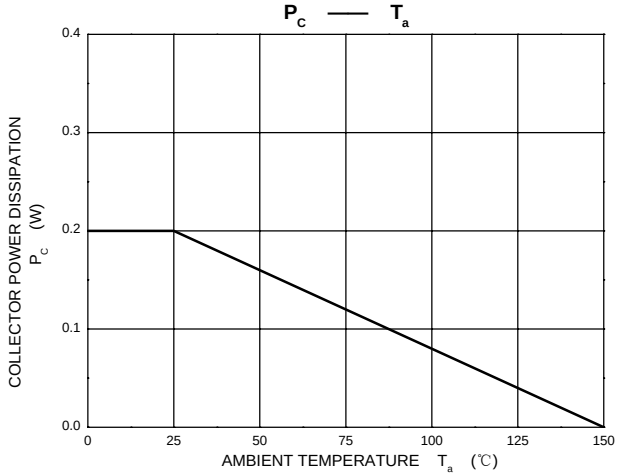




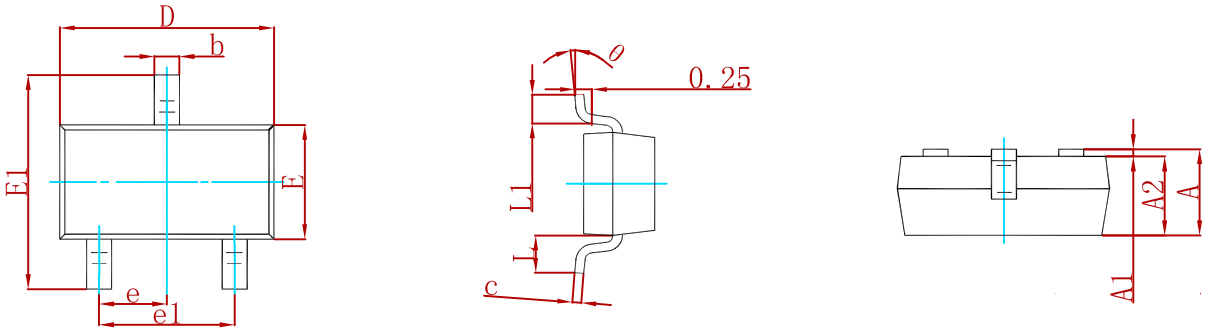






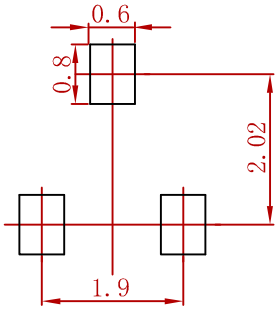


PACKAGE MECHANICAL DATA



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

REEL SPECIFICATION

P/N	PKG	QTY
S9018-MS	SOT-23	3000

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