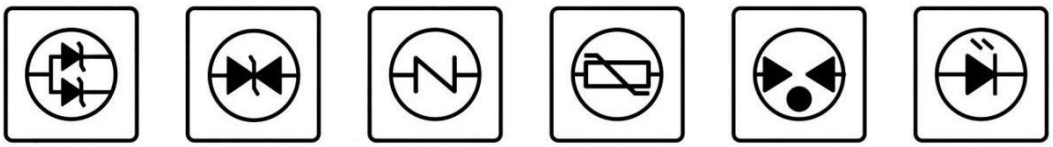
MSKSEMI 美森科
SEMICONDUCTOR



2SA1013-x-MS

Product specification

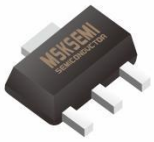
2SA1013-x-MS

TRANSISTOR (PNP)

FEATURE

- High voltage
- Large continuous collector current capability

Reference News

SOT-89	MARKING
 1. BASE 2. COLLECTOR 3. EMITTER	1013

MAXIMUM RATINGS (T_a=25 ℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-160	V
V_{CEO}	Collector-Emitter Voltage	-160	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current -Continuous	-1	A
P_C	Collector Power Dissipation	0.5	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~+150	℃
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	250	℃/W

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=- 100μA , I_E=0	-160		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= -1mA , I_B=0	-160		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= -10μA, I_C=0	-6		V
Collector cut-off current	I_{CBO}	V_{CB}=-150 V , I_E=0		-1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=-6V, I_C=0		-1	μA
DC current gain	h_{FE}	V_{CE}=-5 V, I_C=- 200mA	60	320	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C= -500mA, I_B= -50mA		-1.5	V
Base-emitter voltage	V_{BE}	I_C= -5 mA, V_{CE}=- 5V		-0.75	V
Transition frequency	f_T	V_{CE}= -5 V, I_C= -200mA	15		MHz

CLASSIFICATION OF h_{FE}

Rank	2SA1013-R-MS	2SA1013-O-MS	2SA1013-Y-MS
Range	60-120	100-200	160-320

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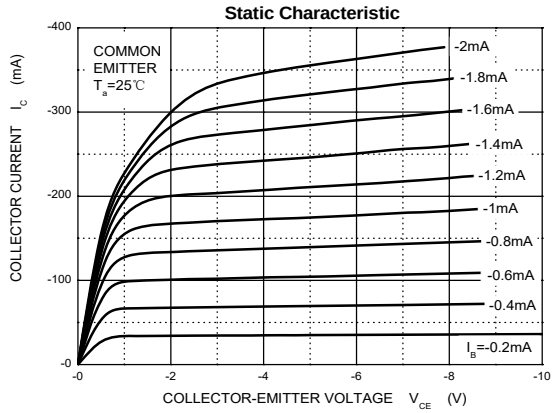
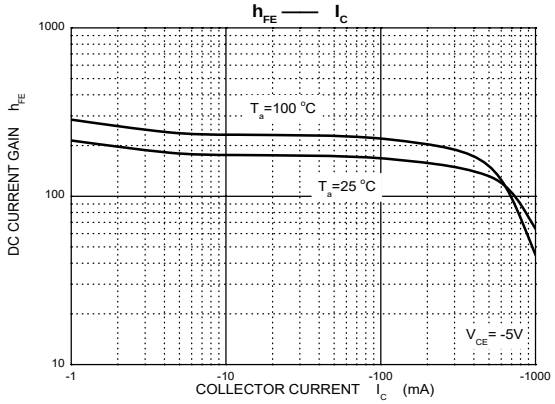
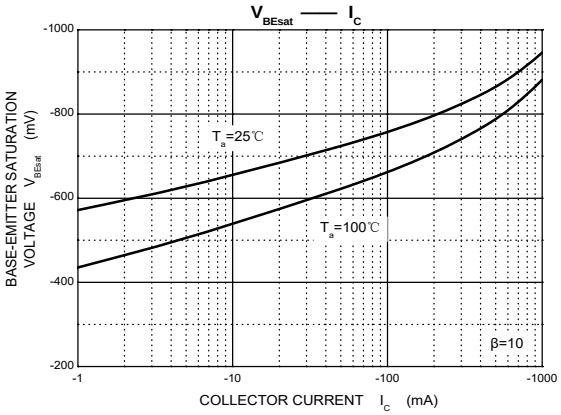
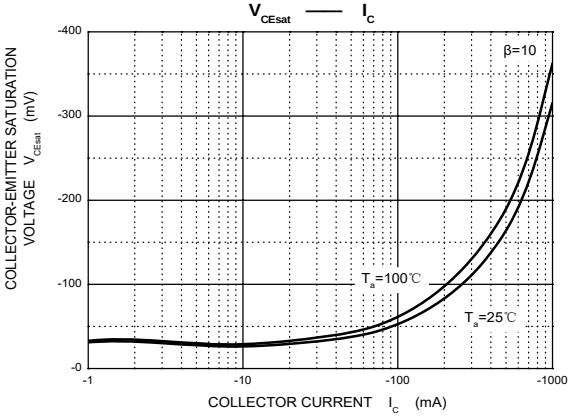
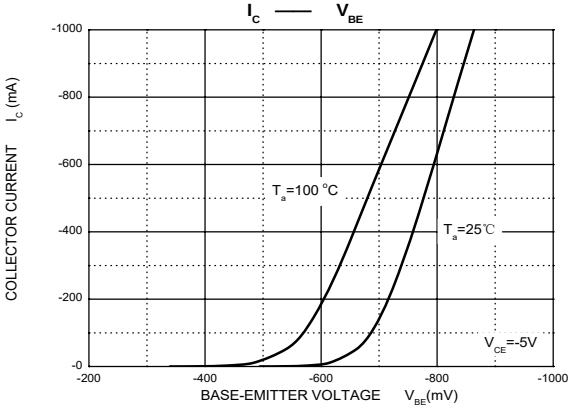
Typical Characteristics

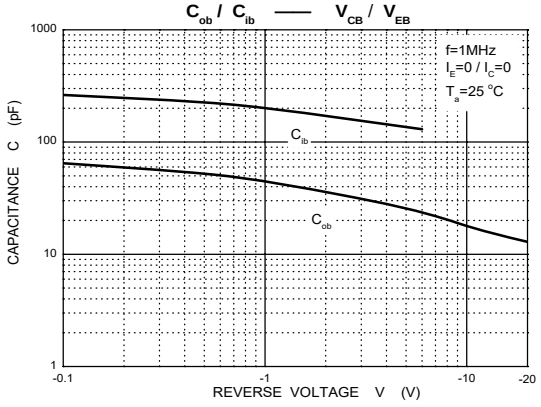


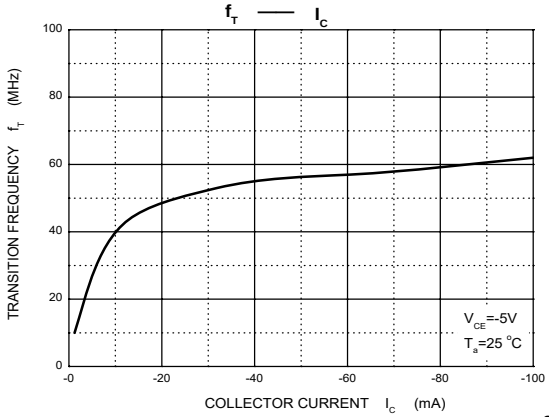


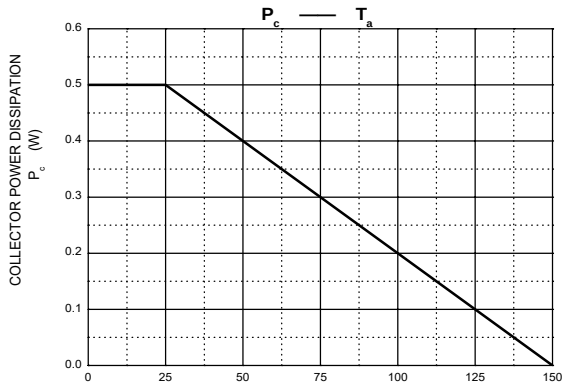












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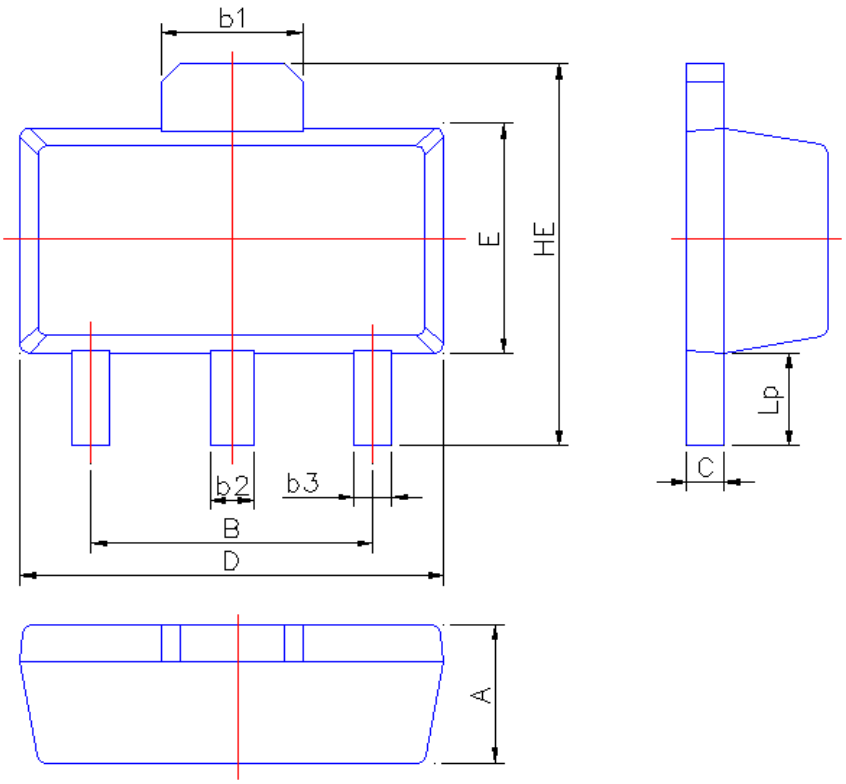
PACKAGE MECHANICAL DATA



SOT-89

Symbol	Dimension in Millimeters	
	Min	Max
A	1.40	1.60
B	2.95	3.05
b1	1.45	1.70
b2	0.45	0.60
b3	0.35	0.50
C	0.35	0.50
D	4.40	4.60
E	2.35	2.55
HE	3.90	4.40
Lp	0.90	1.10

REELSPECIFICATION

P/N	PKG	QTY
2SA1013-x-MS	SOT-89	1000

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