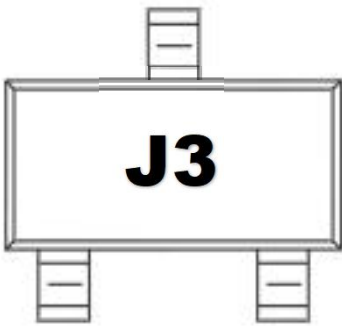




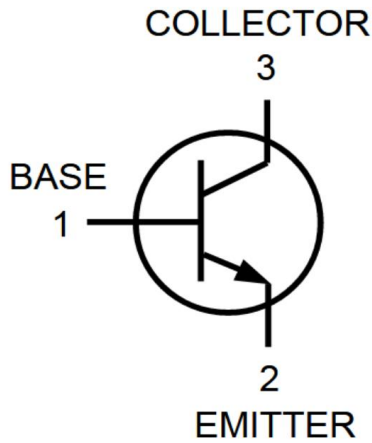
SHENZHEN MENGKE ELECTRONICS TECHNOLOGY CO.,LTD  
SOT-23 Plastic-Encapsulate Transistors

**S9013** TRANSISTOR (NPN)

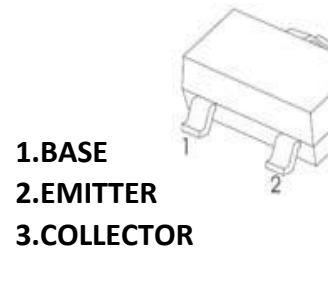
MARKING:



Equivalent Circuit:



SOT-23



FEATURES:

- ※ Complimentary to S9012
- ※ Collector Current:  $I_c=0.5A$
- ※ Excellent Hfe Linearity

**MAXIMUM RATINGS (Ta=25°C unless otherwise noted)**

Parameter	Symbol	Value
Collector-Base Voltage	VCBO	40
Collector-Emitter Voltage	VCEO	25
Emitter-Base Voltage	VEBO	5
Collector Current	IC	500
Collector Power Dissipation	PC	300
Thermal Resistance From Junction To Ambient	ROJA	417
Junction Temperature	Tj	150
Storage Temperature	Tstg	-55~+150



**ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)**

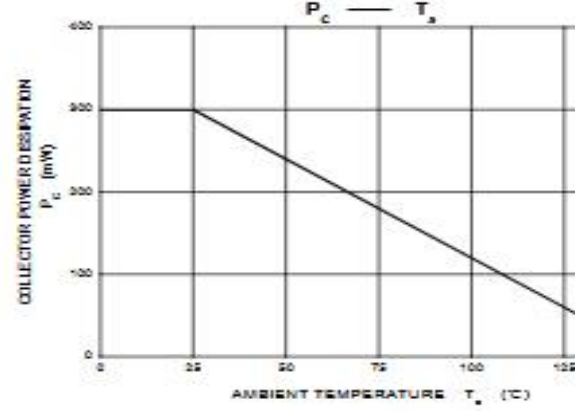
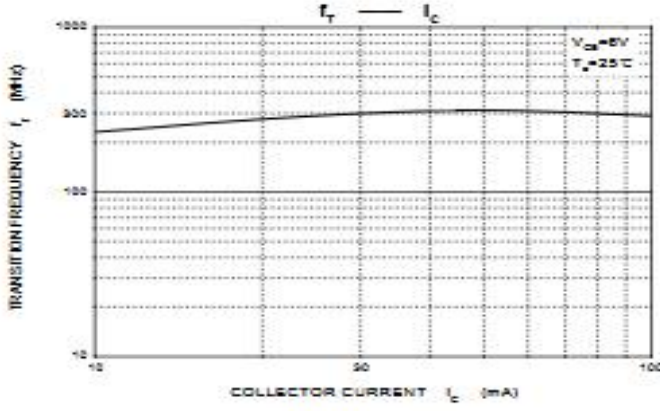
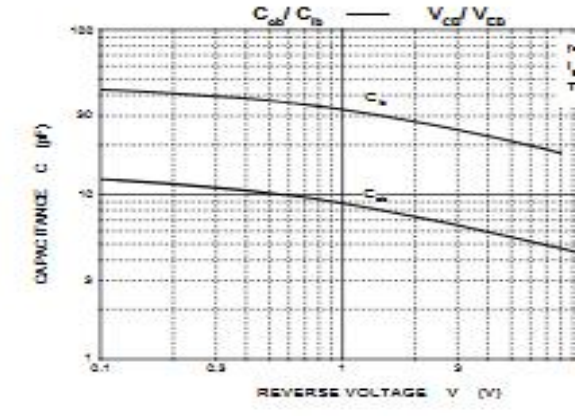
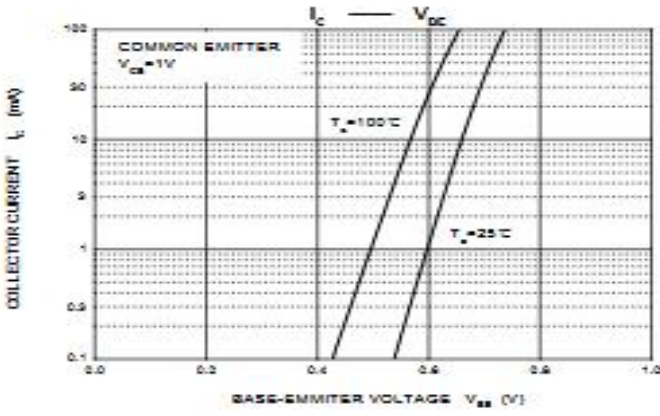
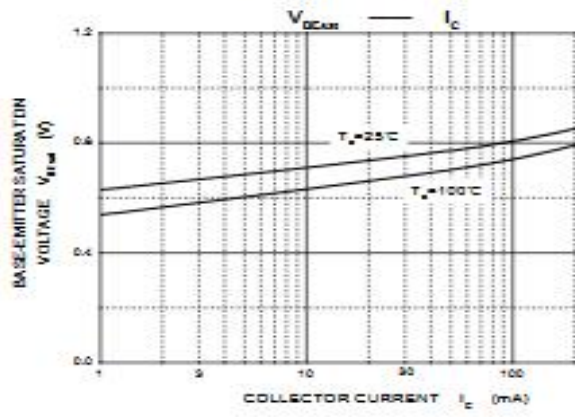
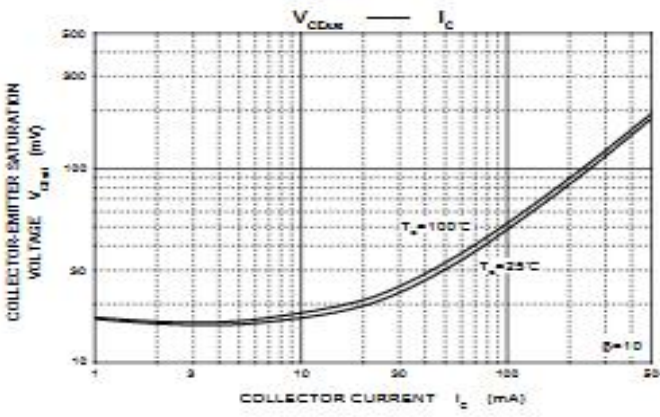
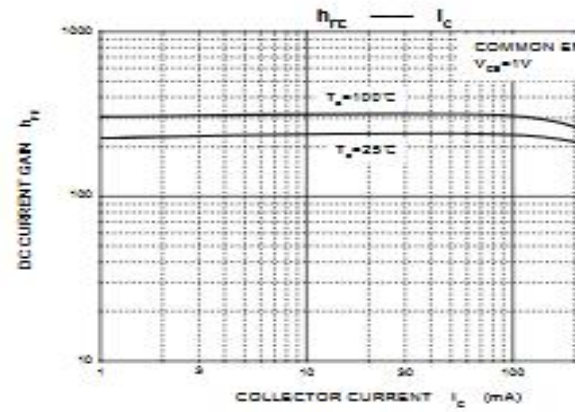
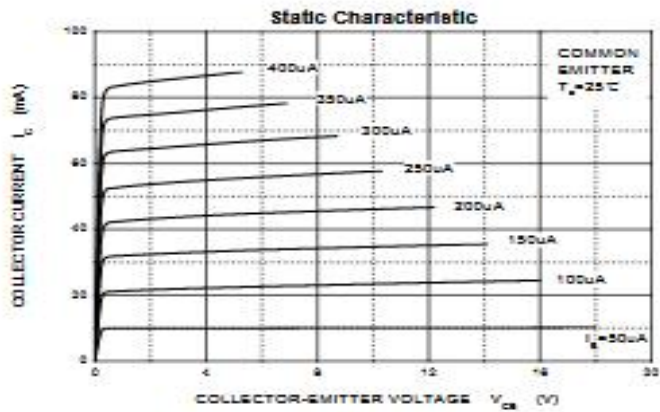
Parameter	Symbol	Test Condition	Min	Typ	Max
Collector-base breakdown voltage	V(BR)CBO	IC= 100μA, IE=0	40		
Collector-emitter breakdown voltage	V(BR)CEO	IC= 1mA, IB=0	25		
Emitter-base breakdown voltage	V(BR)EBO	IE=100μA, IC=0	5		
Collector cut-off current	ICBO	VCB=40 V , IE=0			0.1
Collector cut-off current	ICEO	VCB=25V , IE=0			0.1
Emitter cut-off current	IEBO	VEB= 5V , IC=0			0.1
DC current gain	hFE	VCE=1V, IC= 50mA	120		400
	hFE	VCE=1V, IC= 500mA	40		
Collector-emitter saturation voltage	VCE(sat)	IC=500 mA, IB= 50mA			0.6
Base-emitter saturation voltage	VBE(sat)	IC=500 mA, IB= 50mA			1.2
Base-emitter voltage	VBE	VCB=1V,IC=10mA,			0.7
Transition frequency	fT	VCE=6V, IC=20mA f=30MHz	150		
Collector output capacitance	Cob	VCB=6V, IE=0, f=1MHz			8

**CLASSIFICATION OF hFE**

Rank	L	H	
Range	120-200	200-350	300

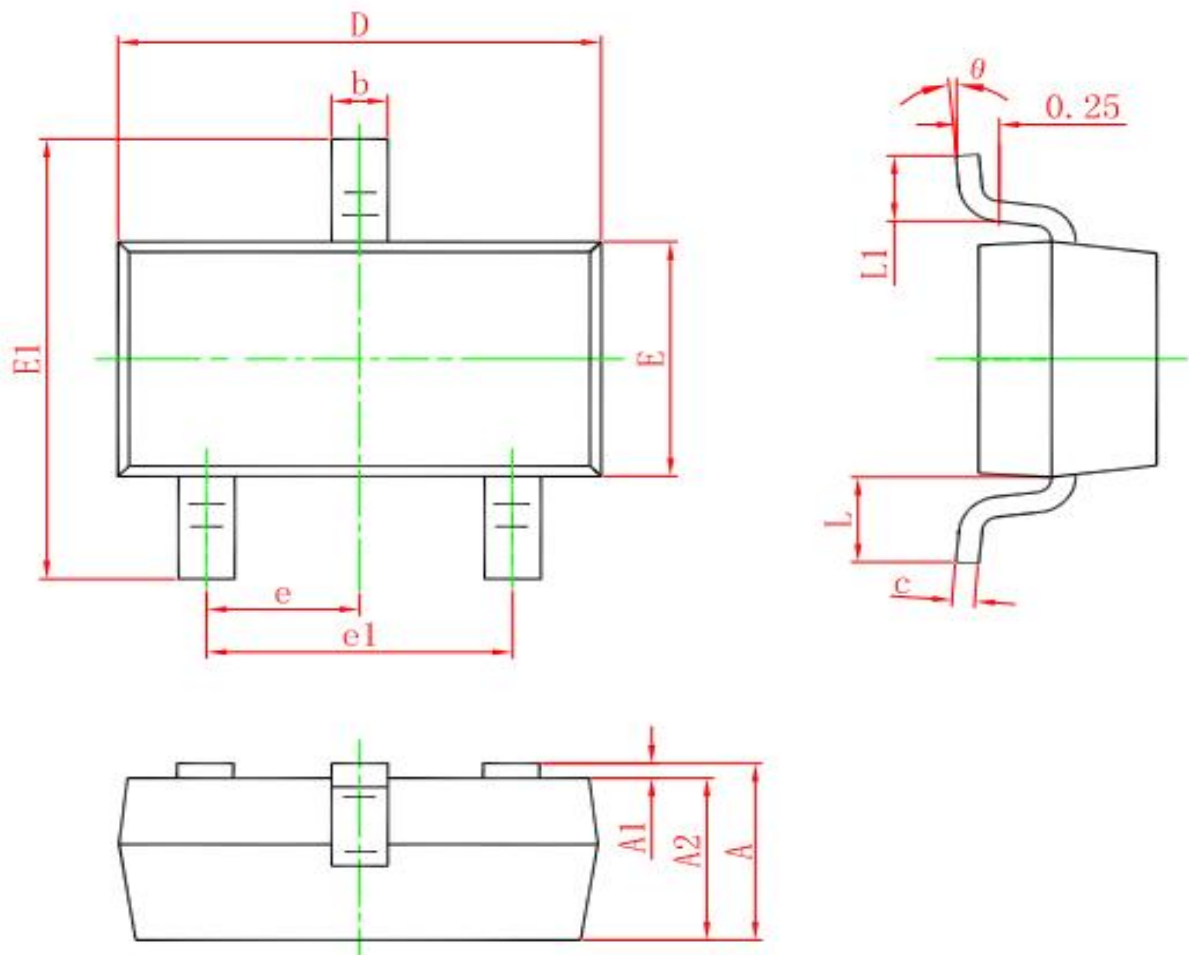


# TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS



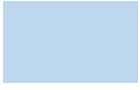
SHENZHEN MENGKE ELECTRONICS TECHNOLOGY CO.,L

## SOT-23 PACKAGE OUTLINE DIMENSIONS



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
$\theta$	0°	8°	0°	8°

FD



Unit
V
V
V
mA
mW
°C/W
°C
°C

.TD



Unit
V
V
V
$\mu\text{A}$
$\mu\text{A}$
$\mu\text{A}$
V
V
V
MHz
pF

J
-400

.TD



.TD

