SOT-23 Plastic-Encapsulate Transistors

Features

- Cmplementary to S9012
- 300 mW Power Dissipation of 300mW
- High Stability and High Reliability

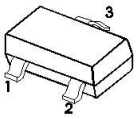
RoHS
COMPLIANT

Marking: J3 **SOT-23**

Mechanical Data

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

Pin definition



1. BASE
2. EMITTER
3. COLLECTOR

Maximum Ratings & Electrical Characteristics (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter -Base Voltage	V_{EBO}	5	V
Collector Current-Continuous	I_C	500	mA
Collector Power Dissipation	P_C	300	mW
Operating junction temperature range	T_J	150	°C
Storage temperature range	T_{STG}	-55-+150	°C
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	416	℃/W

Electrical Specifications (T_A=25℃ unless otherwise noted)

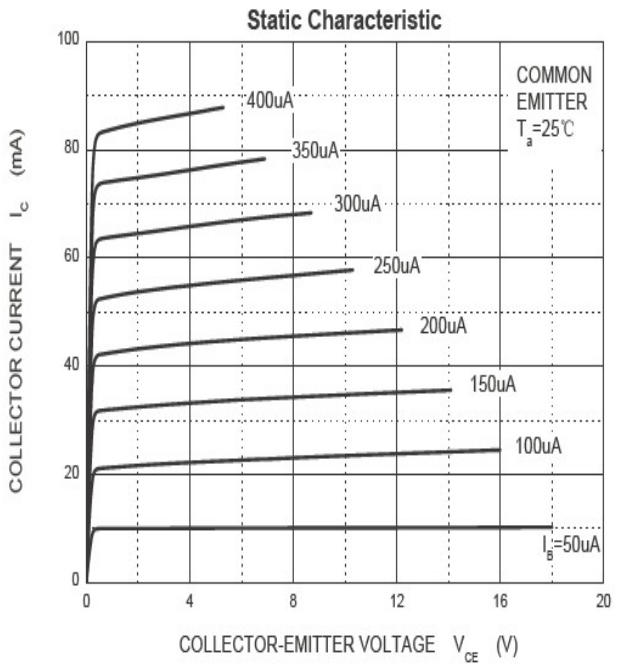
Parameter	Symbol	Test Conditions	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100uA, I_E=0	40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA, I_B=0	25		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100uA, I_C=0	5		
Collector cut-off current	I_{CEO}	V_{CE}=20V, I_B=0		100	nA
Collector cut-off current	I_{CBO}	V_{CB}=40V, I_E=0		100	nA
Emitter cut-off current	I_{EBO}	V_{EB}=5V, I_C=0		100	nA
DC current gain	hFE	V_{CE}=1V, I_C=50mA	120	400	
		V_{CE}=1V, I_C=500mA	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500mA, I_B=50mA		0.60	V
Base -emitter saturation voltage	$V_{BE(sat)}$	I_C=500mA, I_B=50mA		1.20	V
Base -emitter voltage	V_{BE}	V_{CB}=1V, I_C=10mA		0.70	V
Transition frequency	fT	V_{CB}=1V, I_C=10mA	150		MHz
Collector output capacitance	C_{ob}	V_{CE}=6V, I_C=20mA,f=30MHz		8	pF

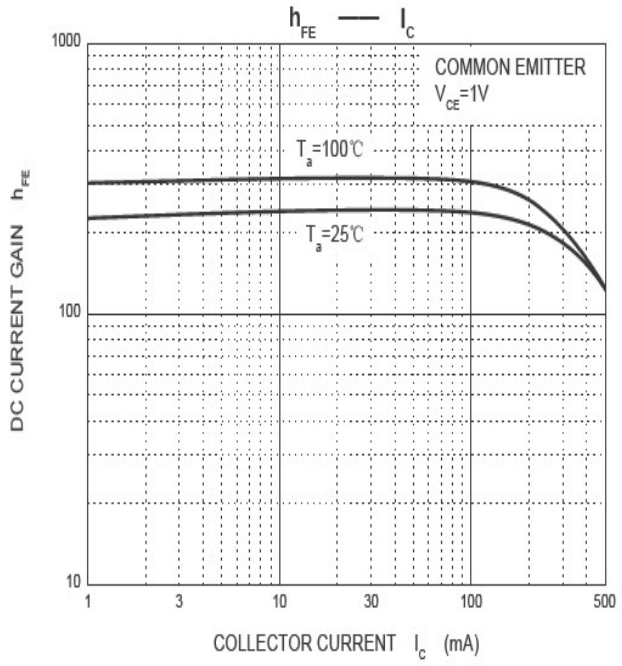
ClassIsIcatIon OF $h_{FE(1)}$

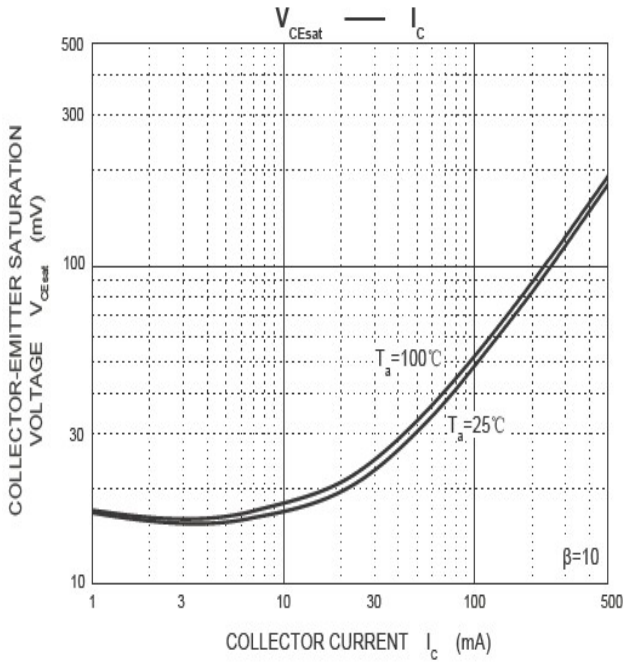
RANK	L	H	J
RANGE	120-200	200-350	300-400

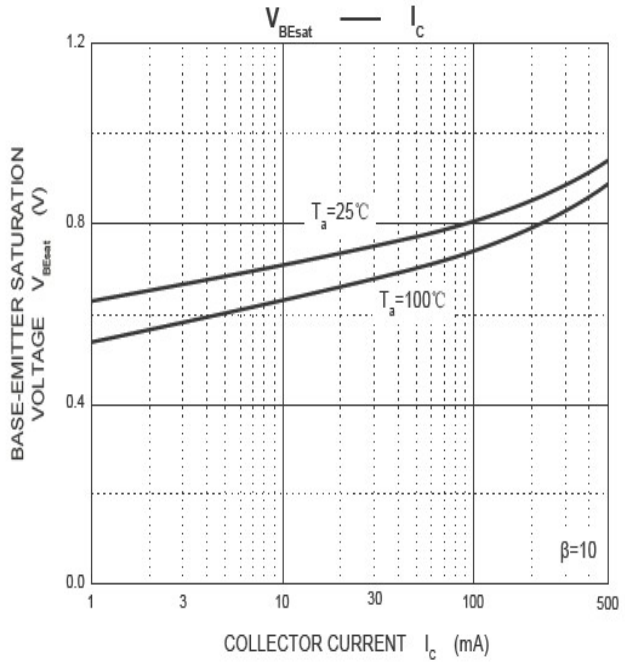
Ratings and Characteristics Curves

(TA = 25℃ unless otherwise noted)









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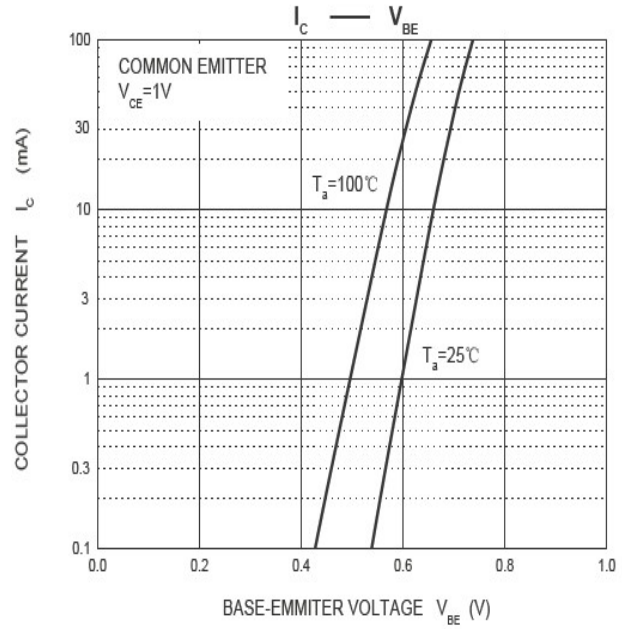
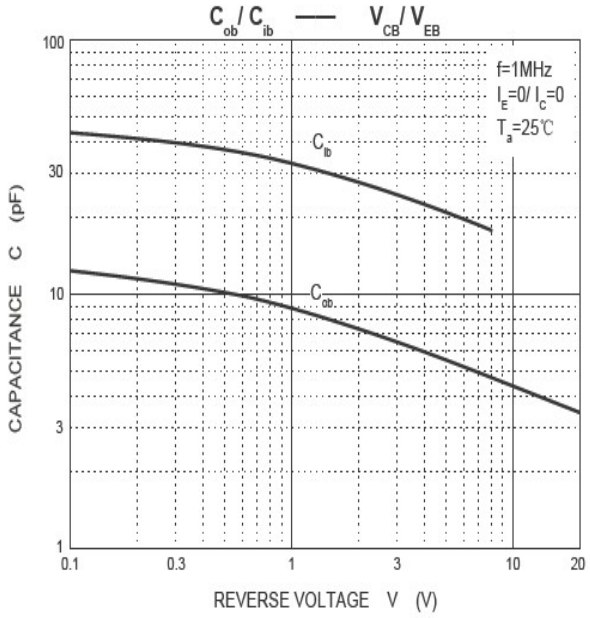
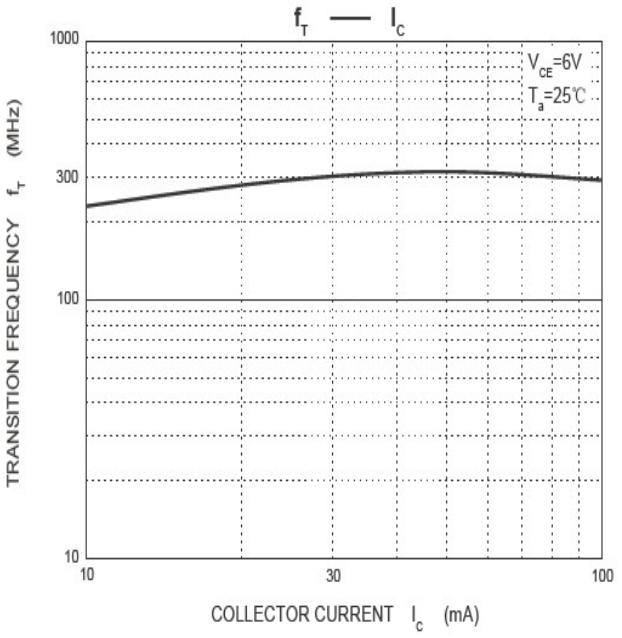
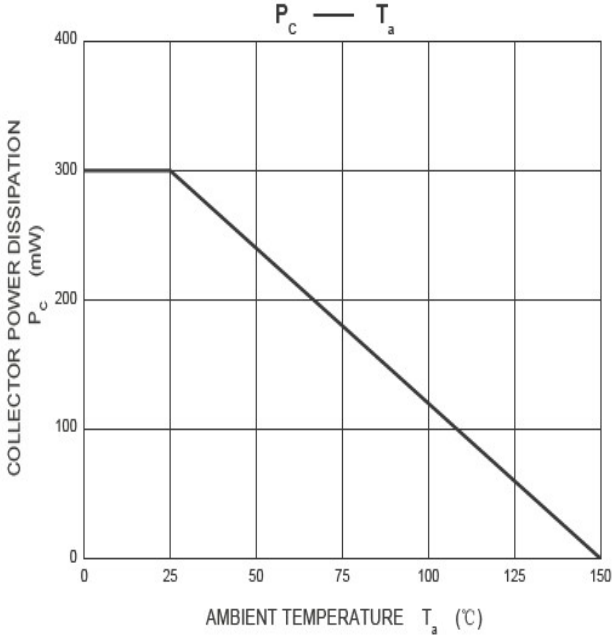


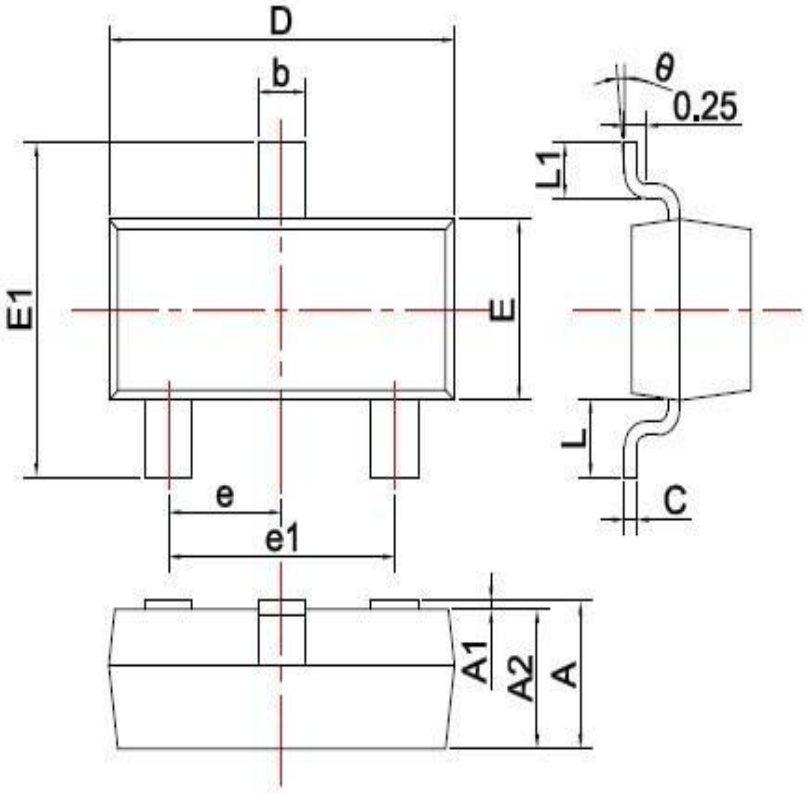






Package Outline Dimensions

millimeters



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Revision History

Document Version	Date of release	Description of changes
Rev.A	2017.02.16	First issue

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