

**SOT-23**

1. BASE
2. Emitter
3. Collector

Features

- Complementary to S9012
- High Stability and High Reliability

MARKING: J3**Maximum Ratings**

(Ratings at 25°C ambient temperature unless otherwise specified.)

Parameters	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
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55+150	°C
Thermal resistance From junction to ambient	R _{θJA}	416	°C/W

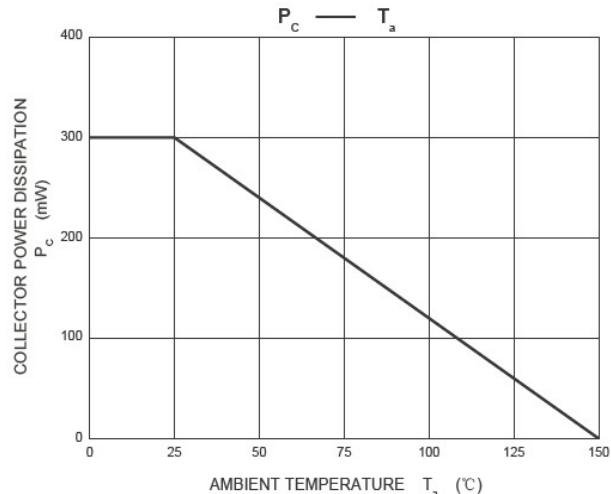
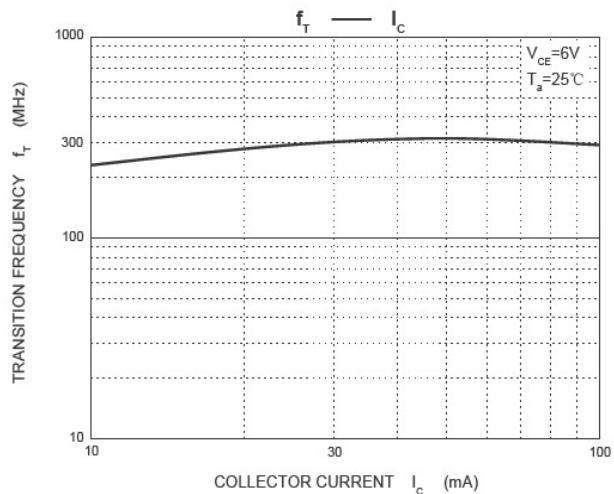
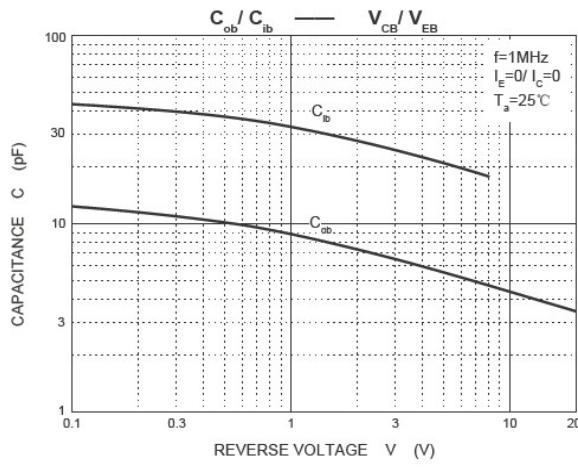
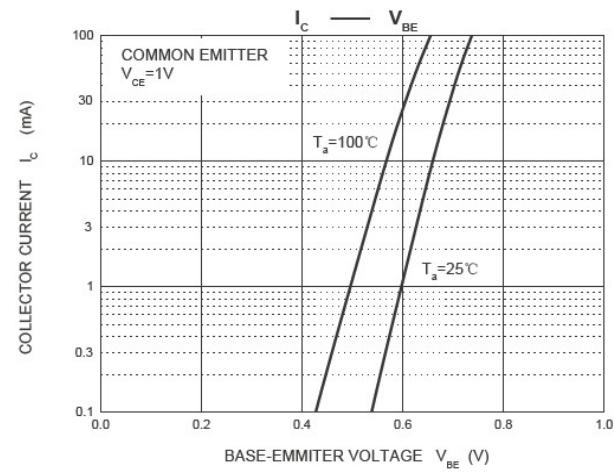
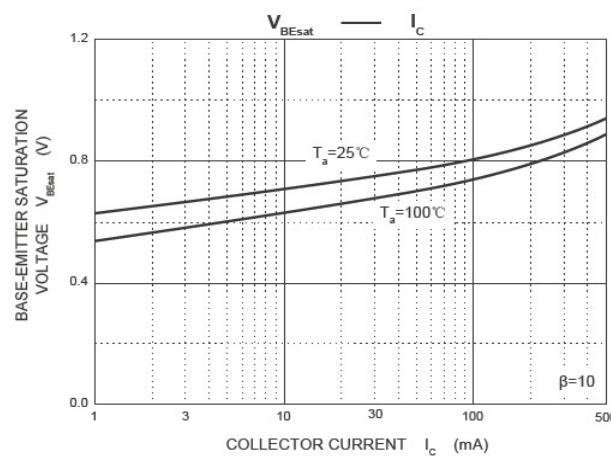
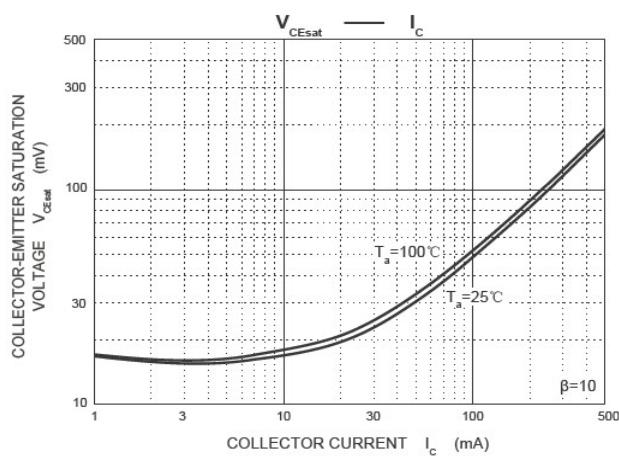
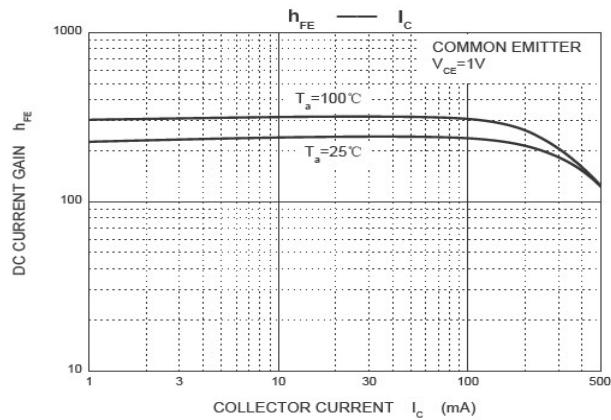
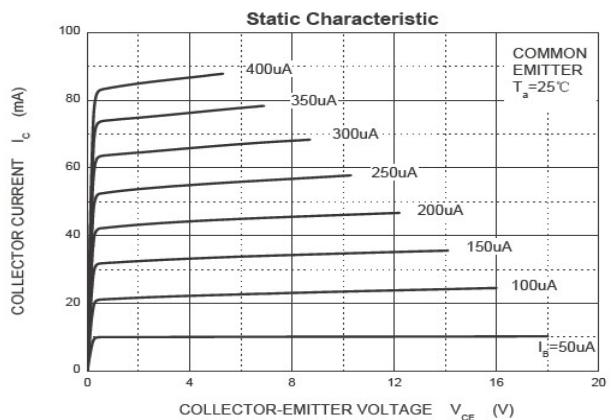
Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified).

Parameter	Symbols	Test Condition	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		V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _e =100uA, I _c =0	5		V
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	h _{FE(1)}	V _{CE} =1V, I _c =50mA	120	400	
	h _{FE(2)}	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	f _T	V _{CE} =6V, I _c =20mA, f=30MHz	150		MHz
Collector output capacitance	C _{ob}	V _{CB} =6V, I _e =0, f=1MHz		8	pF

CLASSIFICATION OF h_{FE(1)}

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



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