

SOT-23


- 1. BASE
- 2. EMITTER
- 3. COLLECTOR

Marking: 2T1
Features

- As complementary type the NPN transistor S9013 is recommended
- Epitaxial planar die construction

Maximum Ratings

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-25	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-500	mA
P_C	Total Device Dissipation	300	mW
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	416	°C/W
T_J	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55 to +150	°C

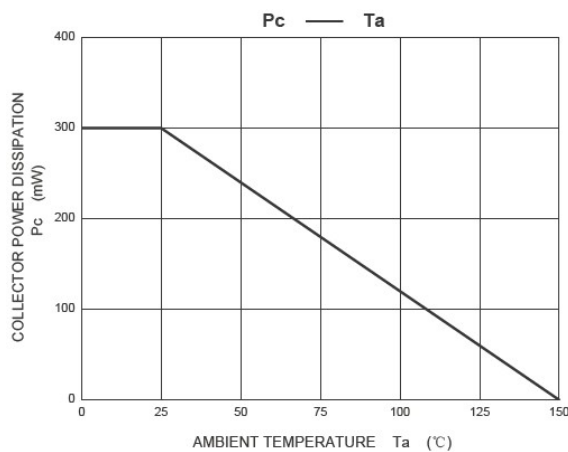
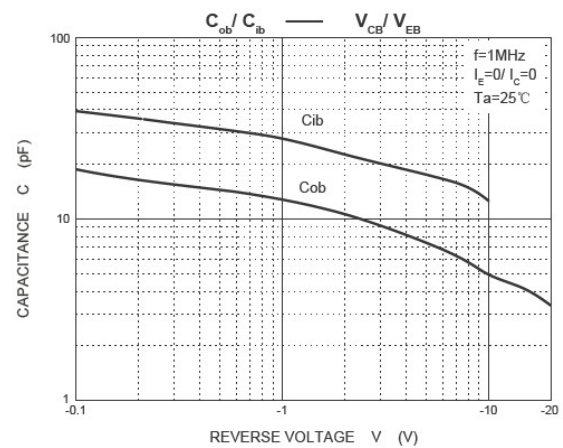
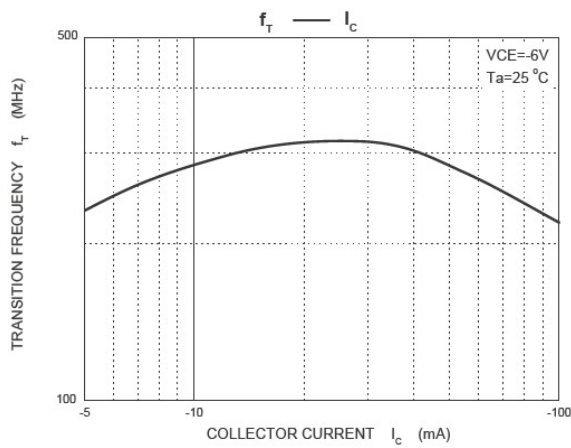
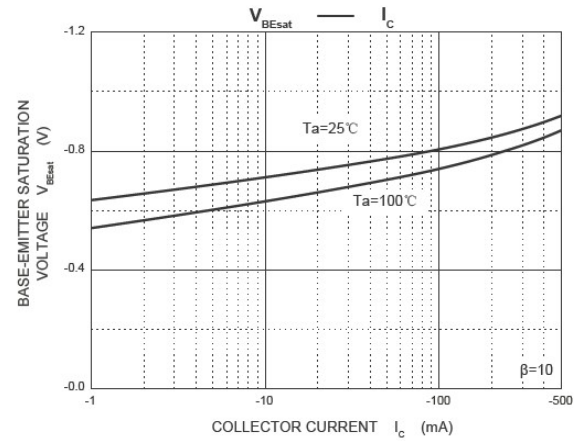
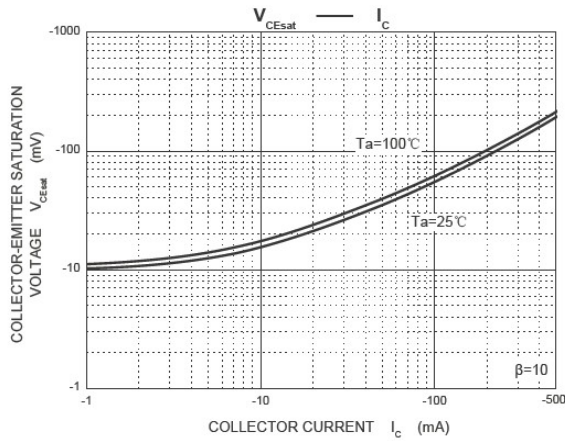
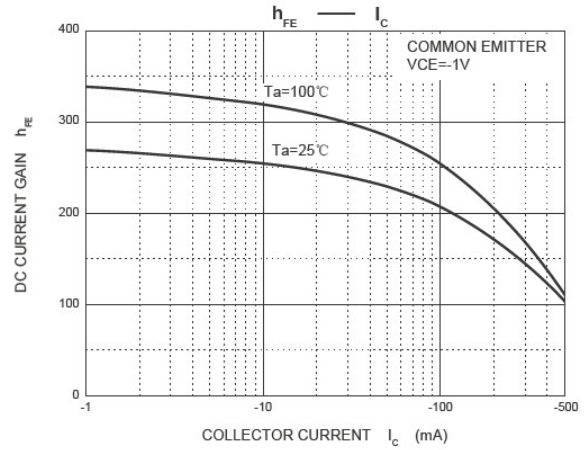
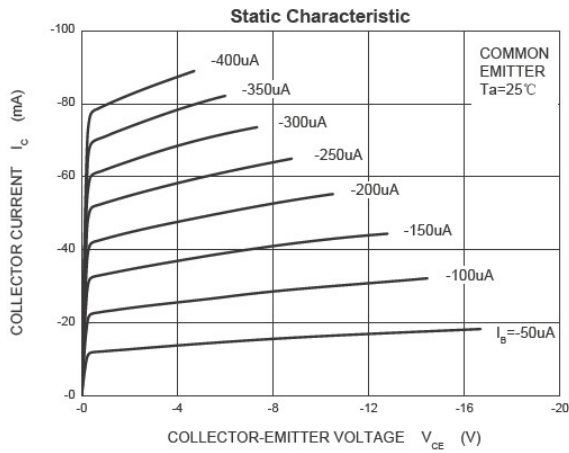
Electrical Characteristics

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

Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = -100\mu A, I_E = 0$	-40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = -1mA, I_B = 0$	-25		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\mu A, I_C = 0$	-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}	$V_{CE} = -1V, I_C = -50mA$	120	400	
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
Transition frequency	f_T	$V_{CE} = -6V, I_C = -20mA, f = 30MHz$	150		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$		5	pF

CLASSIFICATION OF $h_{FE(1)}$

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



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