

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

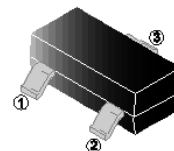
FEATURES

- Ideal for Medium Power Amplification and Switching
- Complementary to S9013-C

SOT-23

MARKING

2T1



CLASSIFICATION OF h_{FE}

Product-Rank	S9012-L-C	S9012-H-C	S9012-J-C
Range	120~200	200~350	300~400

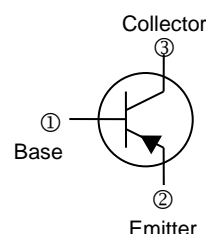
PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7 inch

ORDER INFORMATION

Part Number	Type
S9012-□-C	Lead (Pb)-free and Halogen-free

*□= h_{FE} Rank



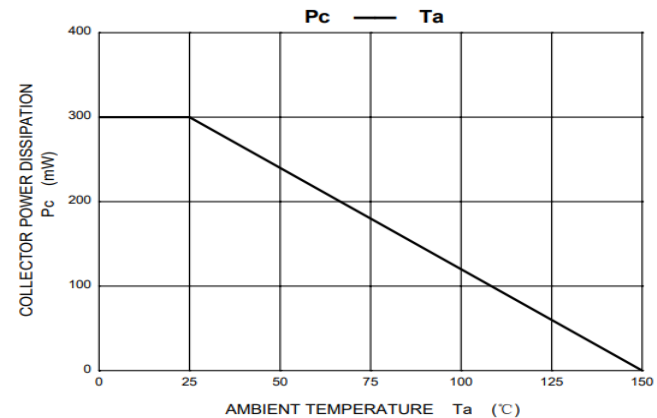
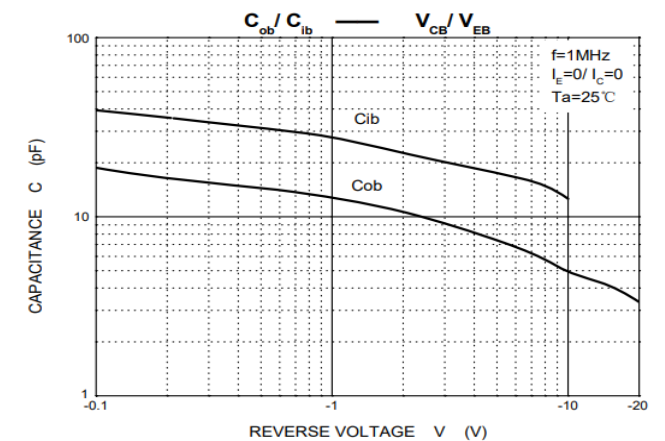
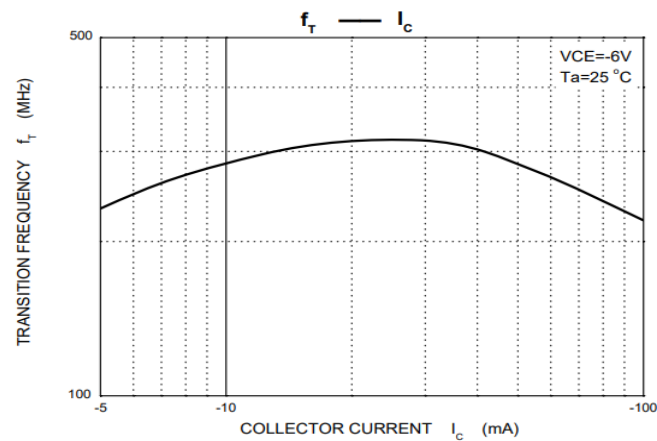
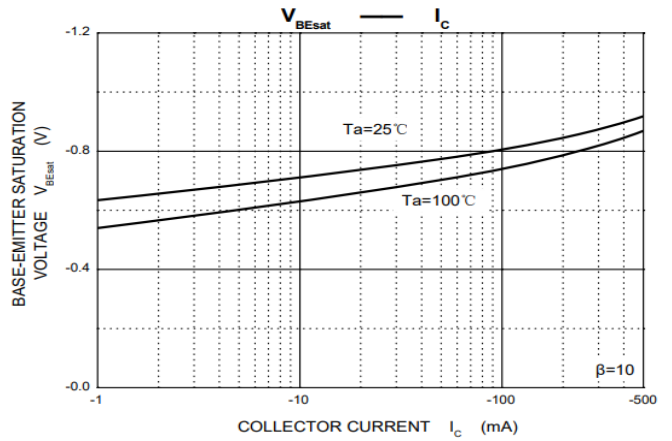
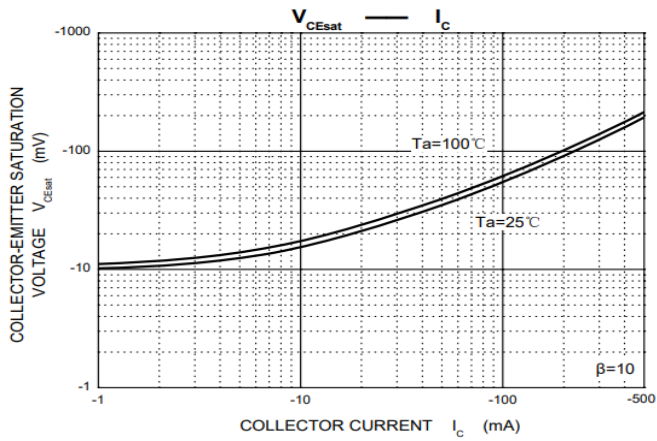
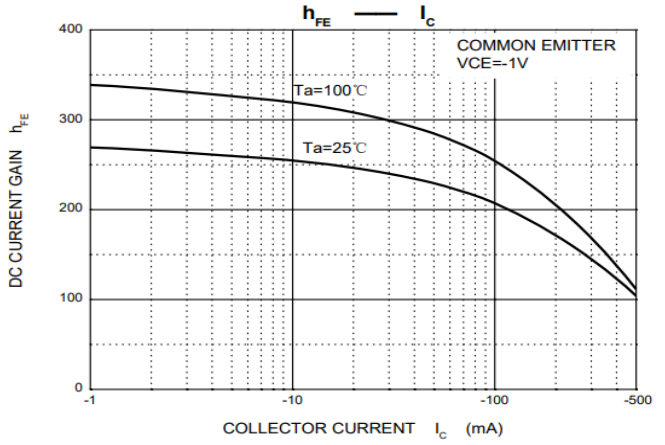
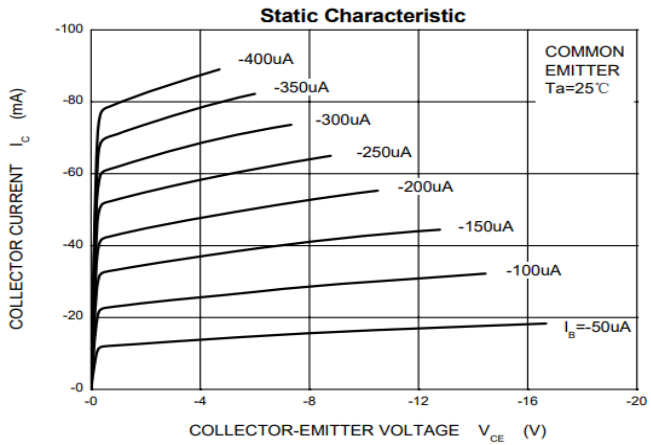
ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-25	
Emitter-Base Voltage	V_{EBO}	-5	
Collector Current	I_C	-0.5	A
Collector Power Dissipation	P_C	300	mW
Thermal Resistance from Junction-Ambient	$R_{\theta JA}$	416	$^\circ\text{C/W}$
Junction & Storage Temperature	T_J, T_{STG}	150, -55~150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise specified)

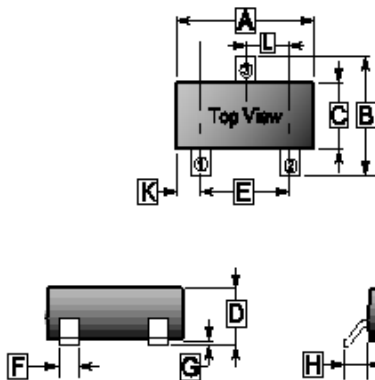
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-40	-	-	V	$I_C = -100\mu\text{A}, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-25	-	-		$I_C = -1\text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5	-	-		$I_E = -100\mu\text{A}, I_C = 0$
Collector Cut-off Current	I_{CBO}	-	-	-100	nA	$V_{CB} = -40\text{V}, I_E = 0$
Collector Cut-off Current	I_{CEO}	-	-	-100		$V_{CE} = -20\text{V}, I_B = 0$
Emitter Cut-off Current	I_{EBO}	-	-	-100		$V_{EB} = -5\text{V}, I_C = 0$
DC Current Gain	h_{FE}	120	-	400		$V_{CE} = -1\text{V}, I_C = -50\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	-	-0.6	V	$I_C = -500\text{mA}, I_B = -50\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	-	-	-1.2		
Transition Frequency	f_T	-	150	-	MHz	$V_{CE} = -6\text{V}, I_C = -20\text{mA}, f = 30\text{MHz}$
Collector Output Capacitance	C_{ob}	-	5	-	pF	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$

CHARACTERISTICS CURVE



PACKAGE OUTLINE DIMENSIONS

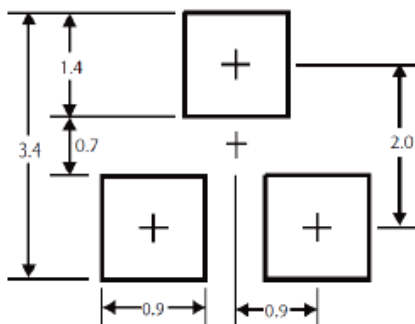
SOT-23



REF.	Millimeter	
	Min.	Max.
A	2.65	3.10
B	2.10	3.00
C	1.10	1.80
D	0.89	1.40
E	1.70	2.30
F	0.28	0.55
G	-	0.18
H	0.55 REF.	
J	0.05	0.26
K	0.60 REF.	
L	0.95 TYP.	

MOUNTING PAD LAYOUT

SOT-23



*Dimensions in millimeters