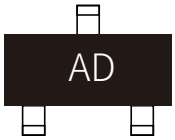
2SC5662

Plastic-Encapsulate Transistor (NPN)

FEATURES

- High transition frequency
- Small rbb'•Cc and high gain
- Small NF

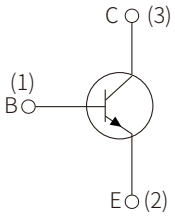
SOT-723



Marking

MECHANICAL DATA

- SOT-723 small outline plastic package
- Epoxy UL: 94V-0
- Mounting position: Any



Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	15	
Emitter-Base Voltage	V_{EBO}	5	
Collector Current-Continuous	I_C	50	mA
Power Dissipation	P_D	400	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55~+150	°C

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector- Base Breakdown Voltage	BV_{CBO}	I_C=100μA,I_E=0	35			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=1mA,I_B=0	25			
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=100μA,I_C=0	5.5			
Collector-Base cut-off current	I_{CBO}	V_{CB}= 15V, I_E=0			50	nA
Emitter-Base cut-off current	I_{EBO}	V_{EB}=5V, I_C=0			100	
Collector-Emitter cut-off current	I_{CEO}	V_{CE}=15V, I_B=0			5	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=5V, I_C=1mA	70		200	
	$h_{FE(2)}$	V_{CE}=5V, I_C=0.1mA				
	$h_{FE(3)}$	V_{CE}=5V, I_C=1mA				
Current Gain Ratio	h_{FE2}/h_{FE3}	I_C=500mA, I_B=50mA	80%			
Current gain-bandwidth product	f_T	V_{CE}=5V,I_C=5mA, ft=400MHz	700			MHz
Collector-Emitter Saturation Voltage	V_{CEsat}	I_C=10mA, I_B=1mA			0.5	V
Output capacitance	C_{ob}	V_{CB}=10V, I_E=0A f = 1MHz		0.8	1.5	pF
Collector-base Time Constant	$C_c \cdot r_{bb}'$	V_{CB}=10V, I_C=10mA f = 31.8MHz		4	12	ps
Noise figure	N_F	V_{CB} =6V, I_C=2mA f = 500MHz, R_g=50Ω		3.5		dB

TYPICAL CHARACTERISTICS

Fig.1-Ground Emitter Propagation Characteristics

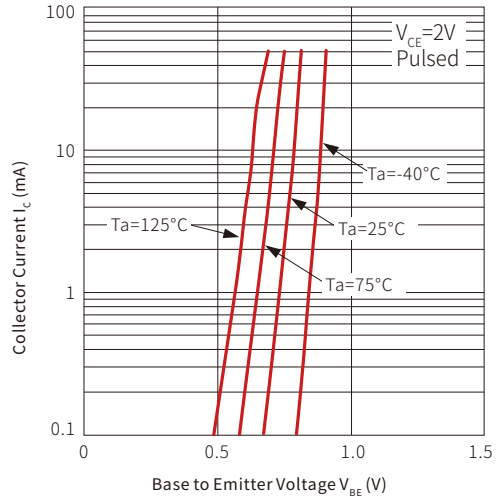


Fig.2-Typical Output Characteristics

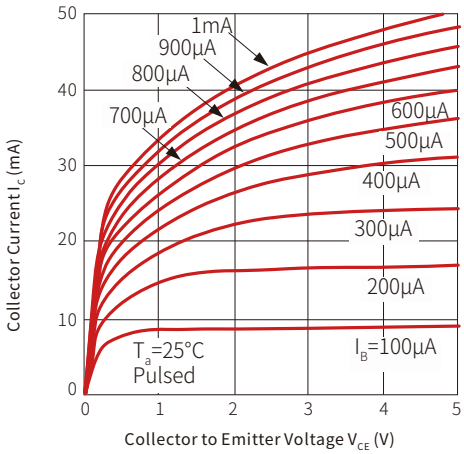


Fig.3 DC Current Gain vs. Collector Current (I)

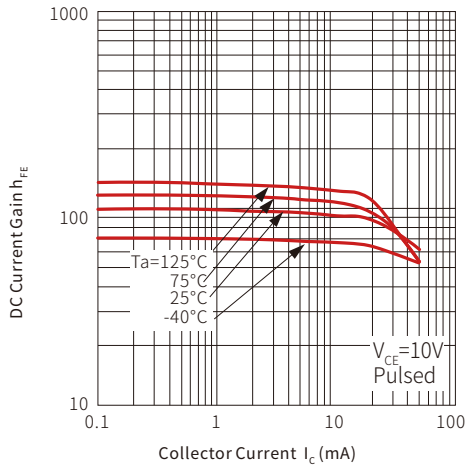


Fig.4 DC Current Gain vs. Collector Current (II)

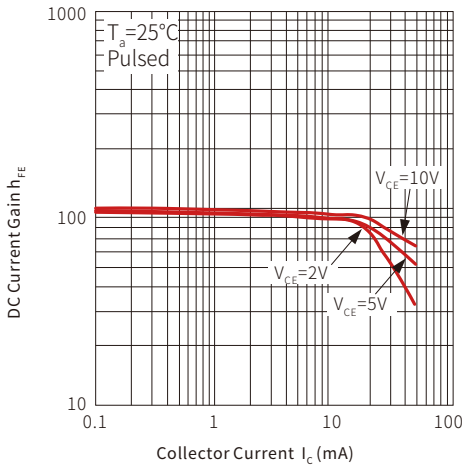


Fig.5 Collector-Emitter Saturation Voltage vs. Collector Current (I)

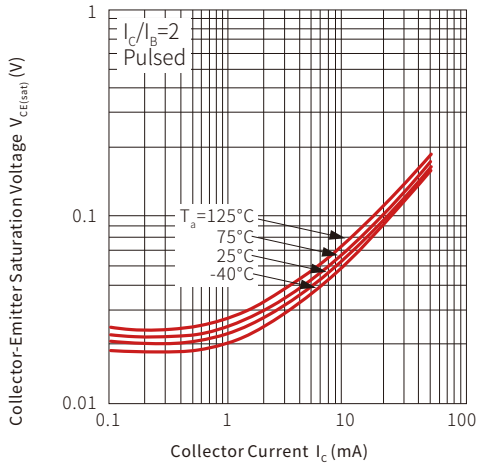


Fig.6 Collector-Emitter Saturation Voltage vs. Collector Current (II)

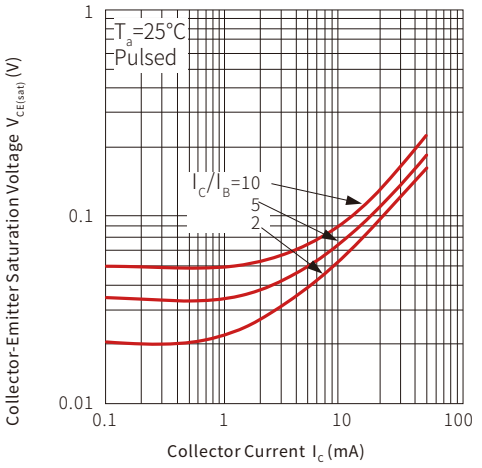


Fig.7 Base-Emitter Saturation Voltage vs. Collector Current

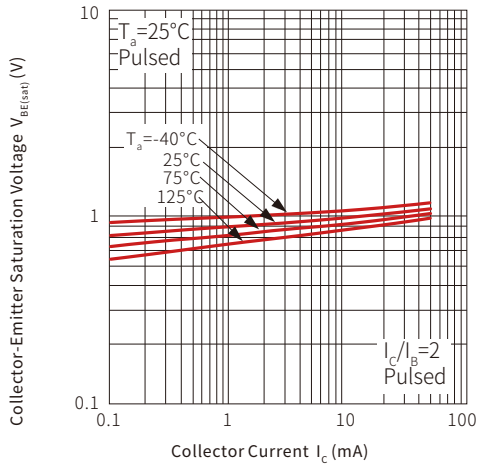


Fig.8 Capacitance vs. Reverse Bias Voltage

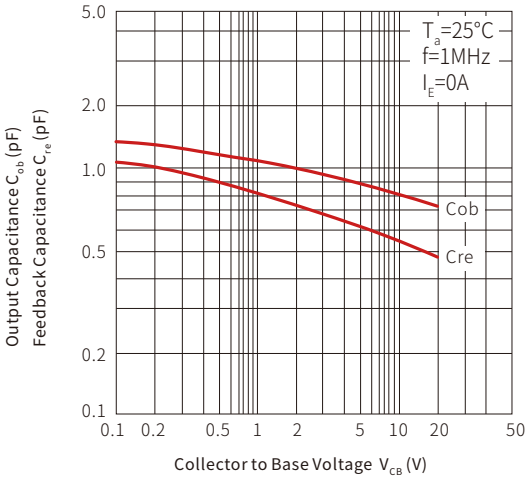


Fig.9 Collector to base time constance vs. collector current

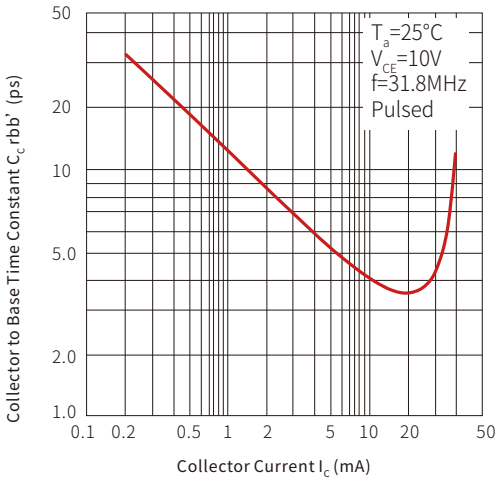
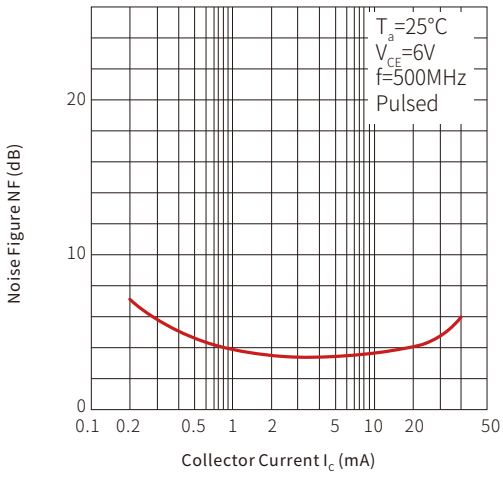
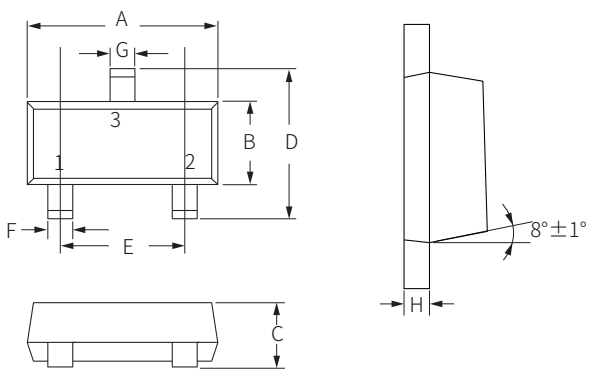


Fig.10 Noise factor vs.collector current characteristics

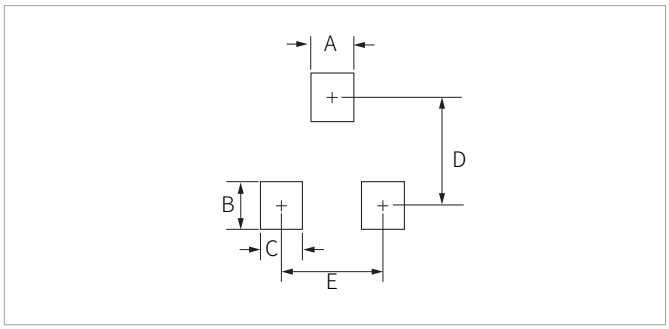


SOT-723 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.15	1.35	0.045	0.053
B	0.75	0.85	0.030	0.033
C	0.35	0.45	0.014	0.018
D	1.15	1.35	0.045	0.053
E	0.80TYP		0.031TYP	
F	0.175	0.25	0.007	0.010
G	0.225	0.30	0.009	0.012
H	0.09	0.13	0.003	0.005

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
	Dimensions	Dimensions
A	0.50	0.020
B	0.45	0.018
C	0.40	0.016
D	1.15	0.045
E	0.80	0.031

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
2SC5662	SOT-723	8000PCS	7”

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