GST2SD965

NPN General Purpose Transistor

Product Description

This device is designed as a general purpose amplifier and switch.

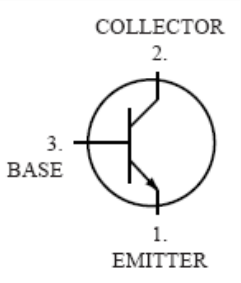
Features

- Collector-Emitter Voltage : 22V
- Collector Current : 5A
- Lead(Pb)-Free

Packages & Pin Assignments

TO-92

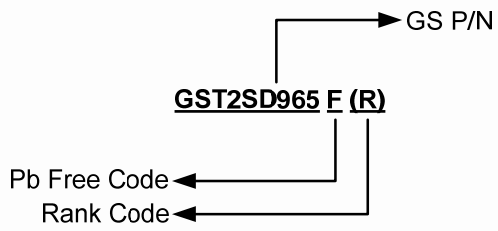
Pin	Description
1	Emitter
2	Collector
3	Base



Marking Information

P/N	Package	Rank	Part Marking
GST2SD965F	TO-92	(R) / (T) / (V)	D965

Ordering Information



Part Number	Package	Quantity
GST2SD965F(R or T or V)	TO-92	1000 PCS

Absolute Maximum Ratings

(T_A=25°C unless otherwise noted)

Symbol	Conditions	Typical	Unit
V_{CEO}	Collector-Emitter Voltage	22	V
V_{CBO}	Collector-Base Voltage	42	V
V_{EBO}	Emitter-Base Voltage	6	V
$I_{C(DC)}$	Collector Current (DC)	5	A
P_D	Total Device Dissipation T_A=25°C	750	mW
T_J	Junction Temperature Range	-55 to +150	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C

Electrical Characteristics

(T_A=25°C unless otherwise noted)

Symbol	Conditions	Min	TYP	Max	Unit
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage (I_C=1mA, I_B=0mA)	22	-	-	V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage (I_C=100uA, I_E=0mA)	42	-	-	V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage (I_E=10uA, I_C=0mA)	6	-	-	V
I_{CBO}	Collector-Base Cutoff Current (V_{CB}=30V, I_E=0mA)	-	-	0.1	uA
I_{EBO}	Emitter-Base Cutoff Current (V_{EB}=6V, I_C=0mA)	-	-	0.1	uA
$h_{FE\ (1)}$	DC Current Gain (I_C=0.15mA, V_{CE}=2V)	150	-	-	-
$h_{FE\ (2)}$	DC Current Gain (I_C=500mA, V_{CE}=2V)	340	-	2000	-
$h_{FE\ (3)}$	DC Current Gain (I_C=2A, V_{CE}=2V)	150	-	-	-
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage (I_C=3A, I_B=100mA)	-	-	0.35	V
f_T	Transition Frequency (I_C=50mA, V_{CE}=6V,f=30MHz)	-	150	-	MHz

Classification of $h_{FE(2)}$

Rank	R	T	V
Range	340-600	560-950	900-2000

Typical Performance Characteristics

Fig.1 Static characteristics

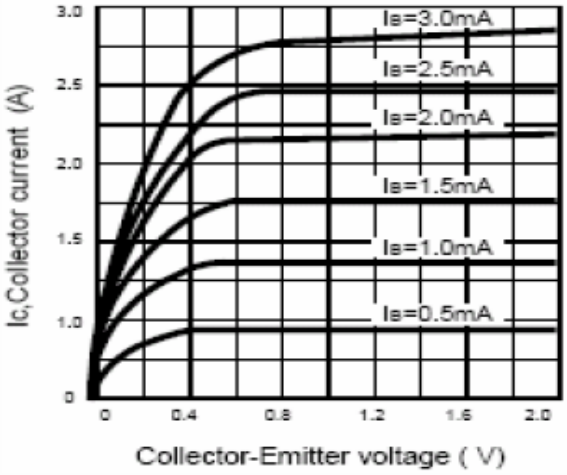


Fig.2 DC current Gain

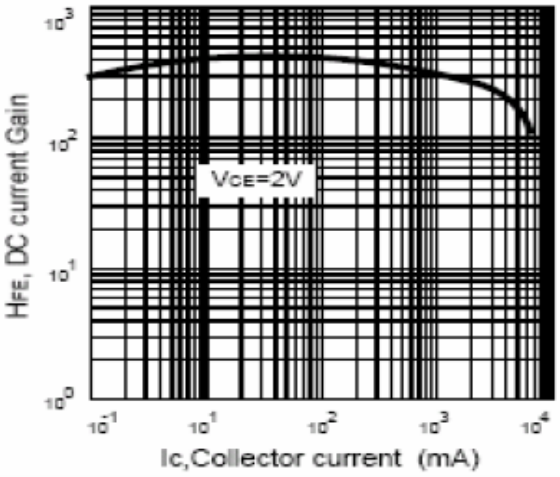


Fig.3 Base-Emitter on Voltage

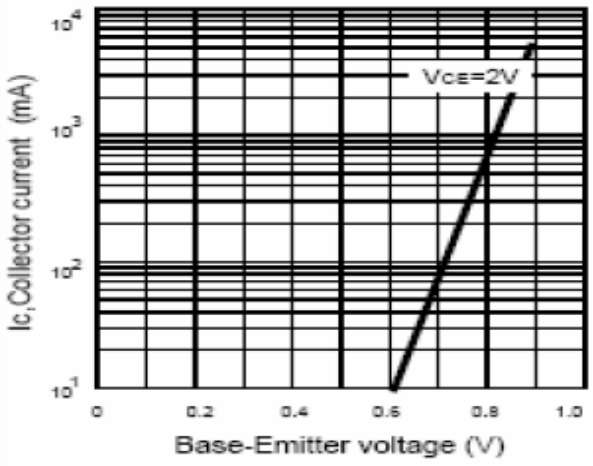


Fig.4 Saturation voltage

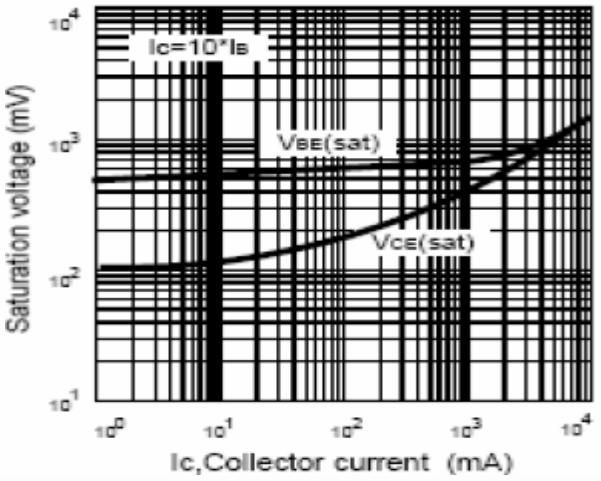


Fig.5 Current gain-bandwidth product

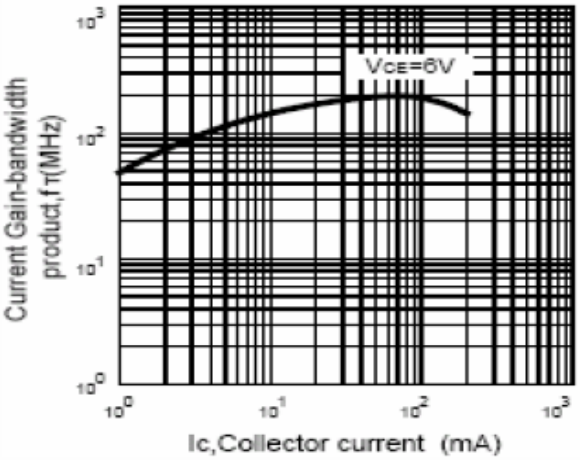
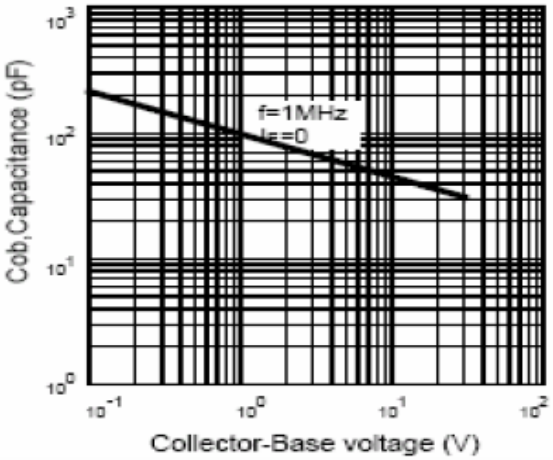
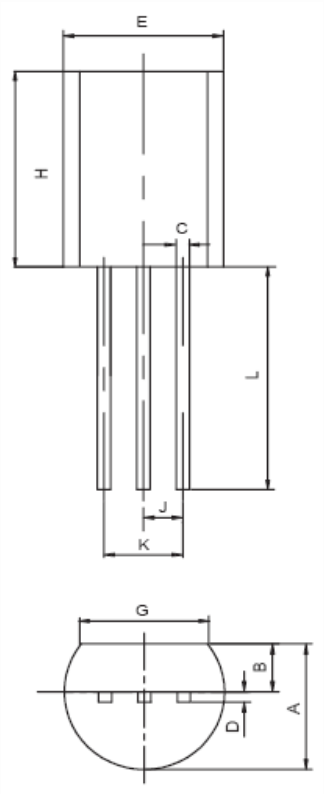


Fig.6 Collector output Capacitance



Package Dimension

TO-92



Dimensions				
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	3.30	3.70	0.13	0.15
B	1.10	1.40	0.04	0.06
C	0.38	0.55	0.015	0.022
D	0.36	0.51	0.014	0.020
E	4.40	4.70	0.173	0.185
G	3.43	-	0.135	-
H	4.30	4.70	0.169	0.185
J	1.270(TYP)		0.050(TYP)	
K	2.44	2.64	0.096	0.104
L	14.10	14.50	0.555	0.571

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