GSTM8050LT1

NPN General Purpose Transistor

Product Description

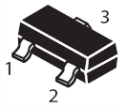
This device is designed as a general purpose amplifier and switch.

Features

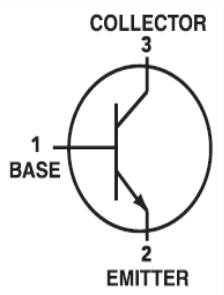
- Collector-Emitter Voltage : 25V
- Collector Current : 800mA
- Lead(Pb)-Free

Packages & Pin Assignments

SOT-23



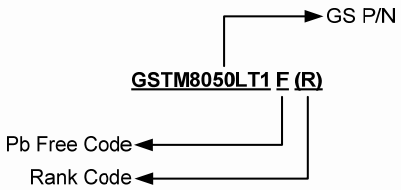
Pin	Description
1	Base
2	Emitter
3	Collector



Marking Information

P/N	Package	Rank	Part Marking
GSTM8050LT1F	SOT-23	P	80P
GSTM8050LT1F	SOT-23	Q	1YC
GSTM8050LT1F	SOT-23	R	1YE
GSTM8050LT1F	SOT-23	S	80S

Ordering Information



Part Number	Package	Quantity
GSTM8050LT1F(P or Q or R or S)	SOT-23	3000 PCS

Absolute Maximum Ratings

(T_A=25°C unless otherwise noted)

Symbol	Conditions	Typical	Unit
V_{CEO}	Collector-Emitter Voltage	25	V
V_{CBO}	Collector-Base Voltage	40	V
V_{EBO}	Emitter-Base Voltage	5	V
$I_{C(DC)}$	Collector Current (DC)	800	mA
P_D	Total Device Dissipation FR-5 Board (1) T_A=25°C Derate above 25°C	 225 1.8	 mW mW/°C
$R_{\Theta JA}$	Thermal Resistance, Junction to Ambient	556	°C/W
P_D	Total Device Dissipation Alumina Substrate (2) T_A=25°C Derate above 25°C	 300 2.4	 mW mW/°C
$R_{\Theta JA}$	Thermal Resistance, Junction to Ambient	417	°C/W
T_J	Junction Temperature Range	-55 to +150	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C

Note 1.FR-5=1.0x0.75x0.062 in

Note 2.Alumina=0.4x0.3x0.024 in. 99.5% alumina

Electrical Characteristics

(T_A=25°C unless otherwise noted)

Symbol	Conditions	Min	Max	Unit
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage (I_C=0.1mA, I_B=0mA)	25	-	V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage (I_C=100uA, I_E=0mA)	40	-	V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage (I_E=100uA, I_C=0mA)	5	-	V
I_{CBO}	Collector-Base Cutoff Current (V_{CB}=35V, I_E=0mA)	-	0.15	uA
I_{EBO}	Emitter-Base Cutoff Current (V_{EB}=4V, I_C=0mA)	-	0.15	uA
$h_{FE\ (1)}$	DC Current Gain (I_C=100mA, V_{CE}=1V)	100	600	-
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage (I_C=800mA, I_B=80mA)	-	0.5	V

Classification of $h_{FE(1)}$

Rank	P	Q	R	S
Range	100-200	150-300	200-400	300-600
Marking	80P	1YC	1YE	80S

Typical Performance Characteristics

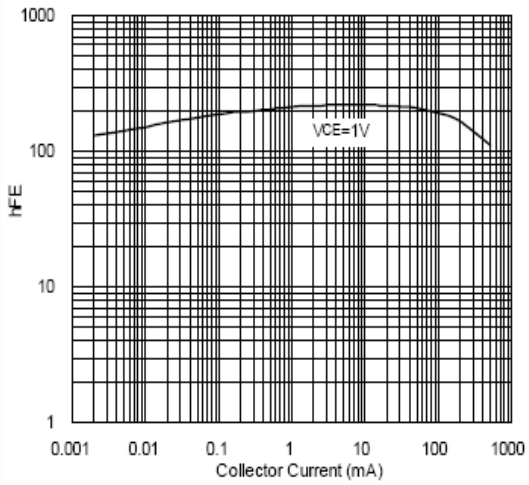


FIG.1 - Current Gain & Collector Current

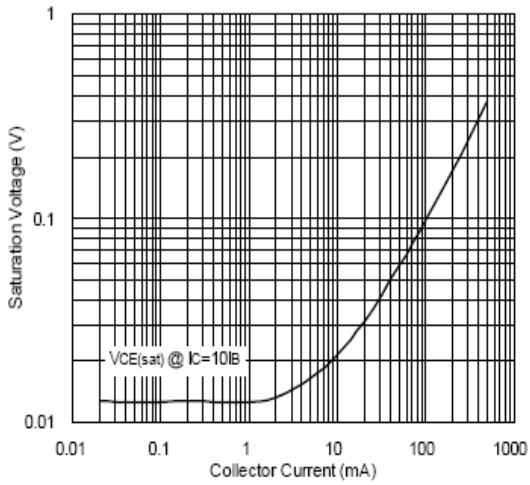


FIG.2 - Saturation Voltage & Collector Current

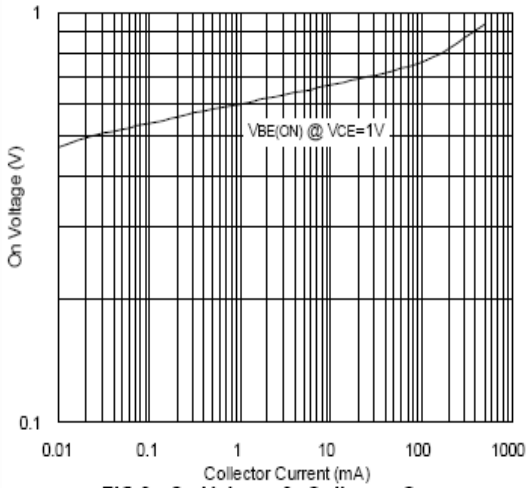


FIG.3 - On Voltage & Collector Current

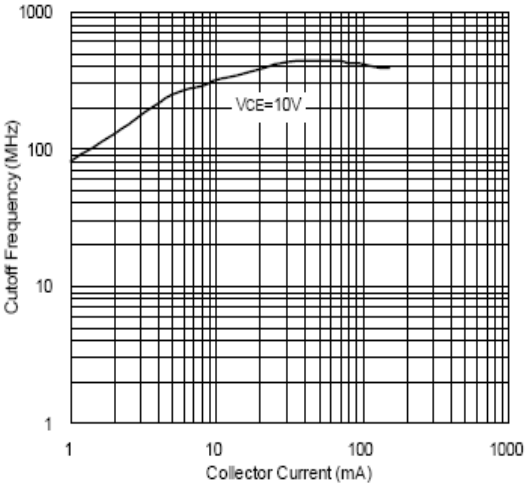


FIG.4 - Cutoff Frequency & Collector Current

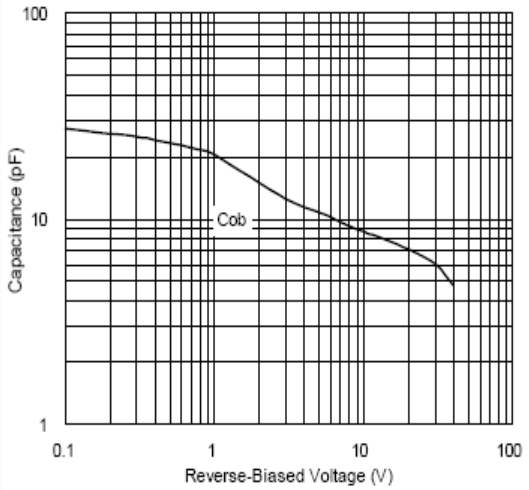
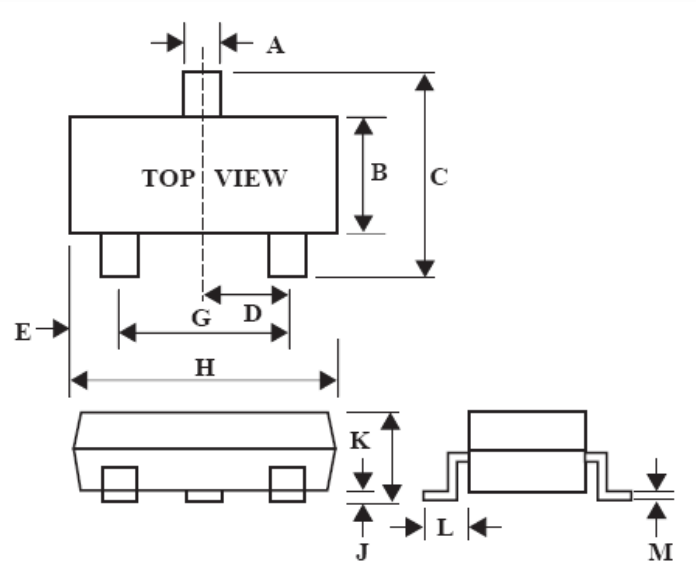


FIG.5 - Capacitance & Reverse-Biased Voltage

Package Dimension

SOT-23



Dimensions				
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	0.35	0.51	0.014	0.020
B	1.19	1.40	0.047	0.055
C	2.10	3.00	0.083	0.118
D	0.85	1.05	0.033	0.041
E	0.46	1.00	0.018	0.039
G	1.70	2.10	0.067	0.083
H	2.70	3.10	0.106	0.122
J	0.01	0.13	0.000	0.005
K	0.89	1.10	0.035	0.043
L	0.30	0.61	0.011	0.024
M	0.076	0.25	0.002	0.010

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