

General Purpose Transistors

NPN Silicon

FEATURE

- High current capacity in compact package.
 $I_C = 0.8A$.
- Epitaxial planar type.
- NPN complement: L8050
- Pb-Free Package is available.
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
L8050PLT1G	S-L8050PLT1G	80P 3000/Tape&Reel
L8050PLT3G	S-L8050PLT3G	80P 10000/Tape&Reel
L8050QLT1G	S-L8050QLT1G	1YC 3000/Tape&Reel
L8050QLT3G	S-L8050QLT3G	1YC 10000/Tape&Reel
L8050RLT1G	S-L8050RLT1G	1YE 3000/Tape&Reel
L8050RLT3G	S-L8050RLT3G	1YE 10000/Tape&Reel
L8050SLT1G	S-L8050SLT1G	80S 3000/Tape&Reel
L8050SLT3G	S-L8050SLT3G	80S 10000/Tape&Reel

MAXIMUM RATINGS

Rating	Symbol	Max	Unit
Collector-Emitter Voltage	V_{CEO}	25	V
Collector-Base Voltage	V_{CBO}	40	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current-continuoun	I_C	800	mAdc

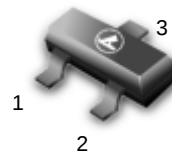
THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board,(1) $T_A=25^{\circ}C$ Derate above $25^{\circ}C$	P_D	225 1.8	mW mW/ $^{\circ}C$
Thermal Resistance,Junction to Ambient	$R_{\theta JA}$	556	$^{\circ}C/W$
Total Device Dissipation Alumina Substrate,(2) $T_A=25^{\circ}C$ Derate above $25^{\circ}C$	P_D	300 2.4	mW mW/ $^{\circ}C$
Thermal Resistance,Junction to Ambient	$R_{\theta JA}$	417	$^{\circ}C/W$
Junction and Storage Temperature	T_j, T_{stg}	-55 to +150	$^{\circ}C$

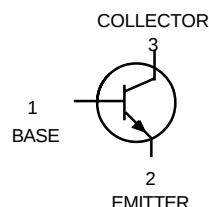
1. FR-5 = 1.0 x 0.75 x 0.062 in.

2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

L8050PLT1G
Series
S-L8050PLT1G
Series



SOT-23



L8050PLT1G
Series
S-L8050PLT1G
Series

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

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage ($I_C=1.0\text{mA}$)	$V_{(BR)CEO}$	25	—	—	V
Emitter-Base Breakdown Voltage ($I_E=100\mu\text{A}$)	$V_{(BR)EBO}$	5	—	—	V
Collector-Base Breakdown Voltage ($I_C=100\mu\text{A}$)	$V_{(BR)CBO}$	40	—	—	V
Collector Cutoff Current ($V_{CB}=35\text{V}$)	I_{CBO}	—	—	150	nA
Emitter Cutoff Current ($V_{EB}=4\text{V}$)	I_{EBO}	—	—	150	nA

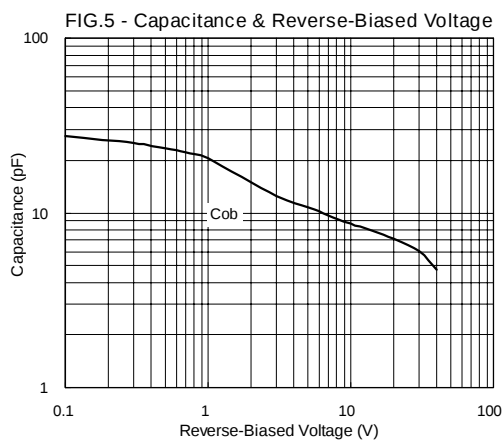
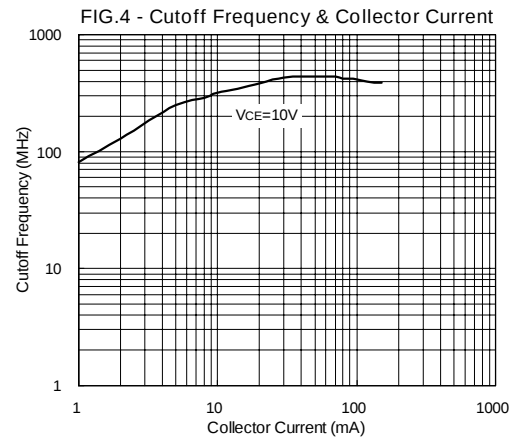
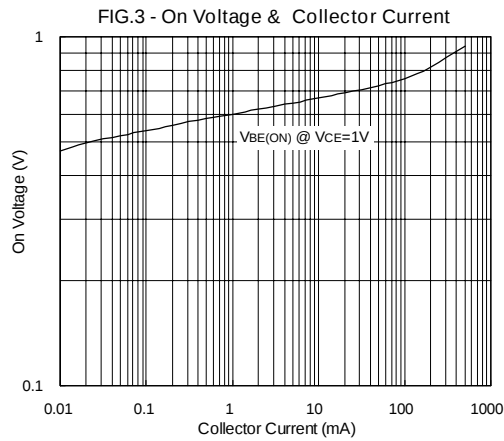
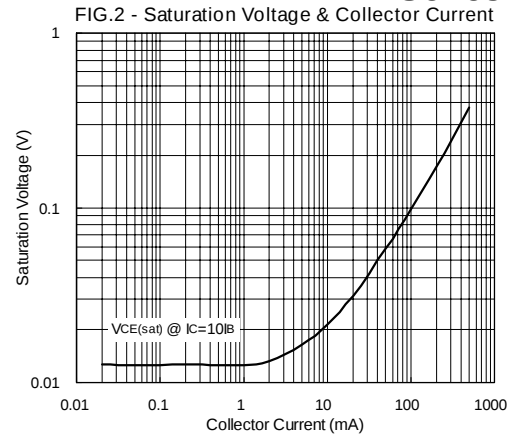
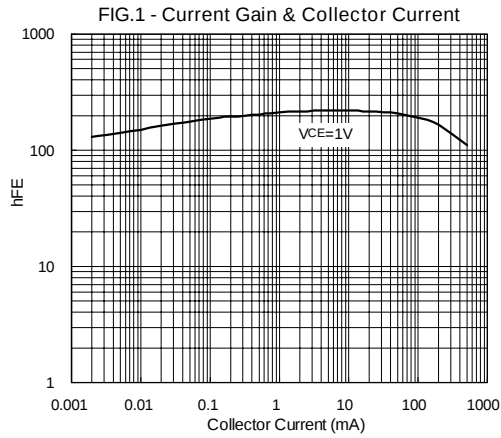
ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Charateristic	Symbol	Min	Typ	Max	Unit
DC Current Gain $I_C=100\text{mA}, V_{CE}=1\text{V}$	h_{FE}	100	-	600	
Collector-Emitter Saturation Voltage ($I_C=800\text{mA}, I_B=80\text{mA}$)	$V_{CE(sat)}$	-	-	0.5	V

NOTE :

*	P	Q	R	S
h_{FE}	100~200	150~300	200-400	300-600

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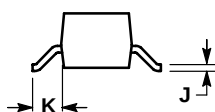
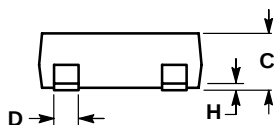
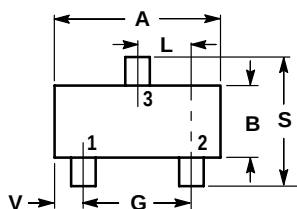


L8050PLT1G
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SOT-23

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M,1982
2. CONTROLLING DIMENSION: INCH.



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

PIN 1. BASE
 2. EMITTER
 3. COLLECTOR

