

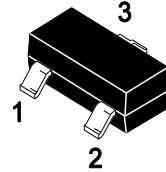
General Purpose Transistors

NPN Silicon

FEATURE

- High current capacity in compact package.
 $I_c = 0.8A$.
- Epitaxial planar type.
- NPN complement: S8050
- 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.

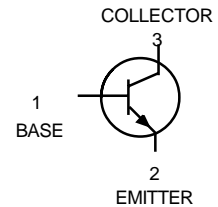
S8050 Series
S-S8050 Series



SOT-23

DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
S8050P S-S8050P	80P	3000/Tape&Reel
S8050Q S-S8050Q	1YC	3000/Tape&Reel
S8050R S-S8050R	1YE	3000/Tape&Reel
S8050S S-S8050S	80S	3000/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-continuous	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.



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

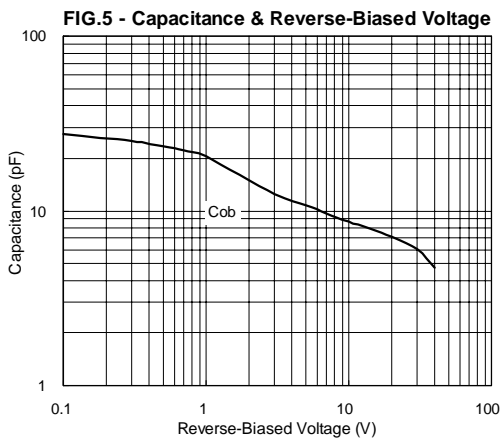
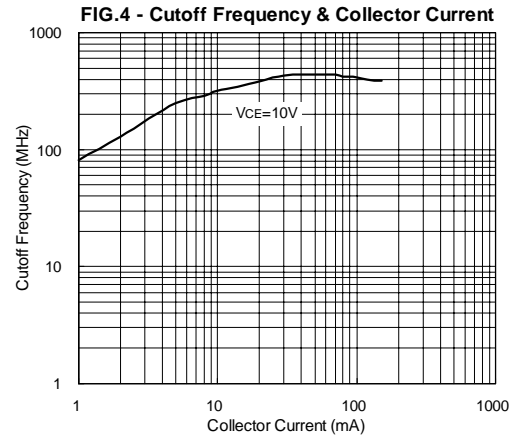
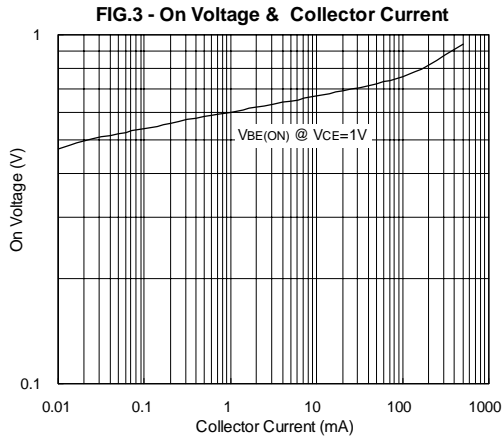
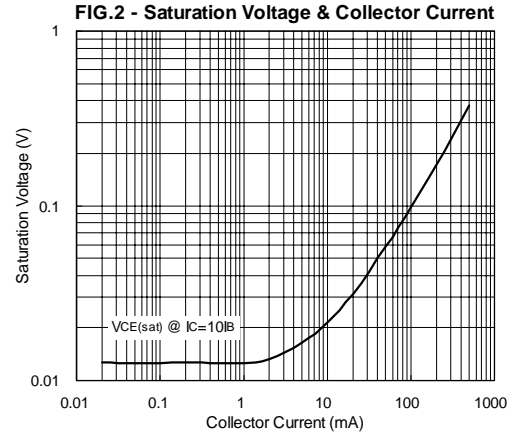
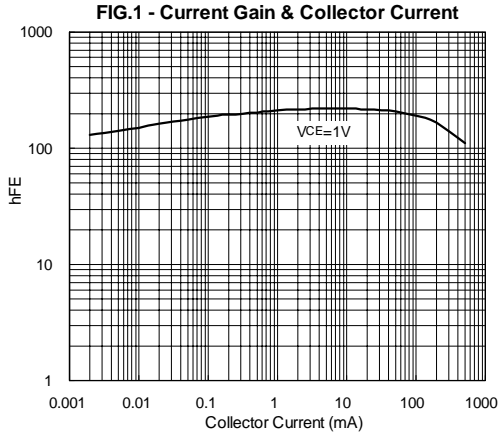
ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

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

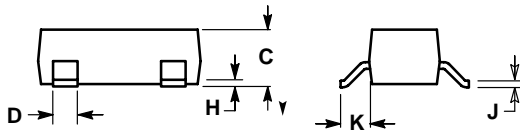
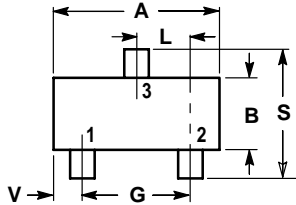




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NOTES:

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

