



DATA SHEET

SEMICONDUCTOR

8050HP/Q/R/S

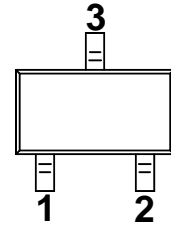
General Purpose Transistors NPN Silicon



SOT-23 (TO-236AB)

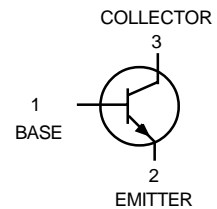
FEATURE

- High current capacity in compact package.
 $I_c = 1.5A$.
- Epitaxial planar type.
- PNP complement: L8550H
- Pb-Free Package is available.



DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
8050HP	1HA	3000/Tape&Reel
8050HQ	1HC	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-continuoun	I_c	1500	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_b	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_b	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	$^\circ C$

ELECTRICAL CHARACTERISTICS

8050HP/Q/R/S

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage (I _C =1.0mA)	V _{(BR)CEO}	25	-	-	V
Emitter-Base Breakdown Voltage (I _E =100μA)	V _{(BR)EBO}	5	-	-	V
Collector-Base Breakdown Voltage (I _C =100μA)	V _{(BR)CBO}	40	-	-	V
Collector Cutoff Current (V _{CB} =35V)	I _{CBO}	-	-	150	nA
Emitter Cutoff Current (V _{EB} =4V)	I _{EBO}	-	-	150	nA

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
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ON CHARACTERISTICS

DC Current Gain I _C =100mA, V _{CE} =1V	h _{FE}	120	-	600	
Collector-Emitter Saturation Voltage (I _C =800mA I _B =80mA)	V _{CE(S)}	-	-	0.5	V

NOTE :

*	P	Q	R	S
h _{FE}	120~200	150~300	200~400	300~600

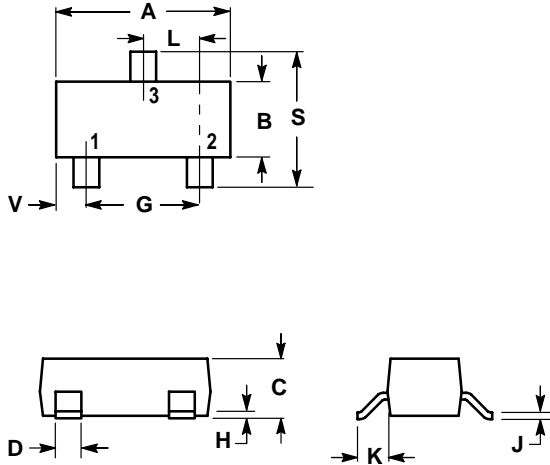
PACKAGE OUTLINE & DIMENSIONS

8050HP/Q/R/S

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

