



DESCRIPTION

The 8050P/Q are available in SOT-23 package.

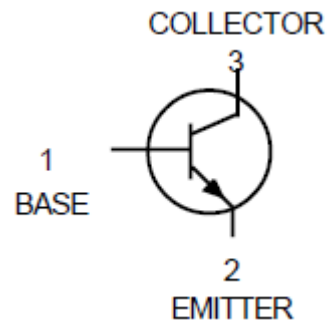
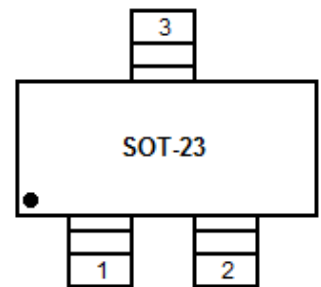
FEATURES

- High current capacity in compact package.
 $I_c = 0.8A.$
- Epitaxial planar type
- NPN complement: 8050
- RoHS Compliant
- Available in SOT-23 package

ORDERING INFORMATION

Package Type	Part Number
SOT-23	8050P
	8050Q
Package	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION





ABSOLUTE MAXIMUM RATINGS

V _{CEO} , Collector-Emitter Voltage	25V
V _{CBO} , Collector-Base Voltage	40V
V _{EBO} , Emitter-Base Voltage	5V
I _C , Collector Current -Continuous	800mAdc

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

THERMAL CHARACTERISTICS

Parameter	Symbol	Max	Unit
Total Device Dissipation FR-5 Board ^{NOTE1} T _A = 25°C Derate above 25°C	P _D	225 1.8	mW mW/°C
Thermal Resistance, Junction to Ambient	R _{θJA}	556	°C/W
Total Device Dissipation Alumina Substrate ^{NOTE2} T _A = 25°C Derate above 25°C	P _D	300 2.4	mW mW/°C
Thermal Resistance, Junction to Ambient	R _{θJA}	417	°C/W
Junction and Storage Temperature	T _J , T _{STG}	-55 to +150	°C

NOTE1: FR-5 = 1.0 x 0.75 x 0.062 in.

NOTE2: Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.



ELECTRICAL CHARACTERISTICS

T_A = 25°C unless otherwise noted

Parameter	Symbol	Characteristic	Min	Typ	Max	Unit	
OFF CHARACTERISTICS							
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C = 1.0mA	25	-	-	V	
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	I _E = 100μA	5	-	-	V	
Collector-Base Breakdown Voltage	V _{(BR)CBO}	I _C = 100μA	40	-	-	V	
Collector Cutoff Current	I _{CBO}	V _{CB} = 35V	-	-	150	nA	
Emitter Cutoff Current	I _{EBO}	V _{EB} = 4V	-	-	150	nA	
ON CHARACTERISTICS							
DC Current Gain	h _{FE}	I _C = 100mA, V _{CE} = 1V	P	100	-	200	-
			Q	150	-	300	
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C = 800mA, I _B = 80mA	-	-	0.5	V	



TYPICAL CHARACTERISTICS

Figure 1. Current Gain & Collector Current

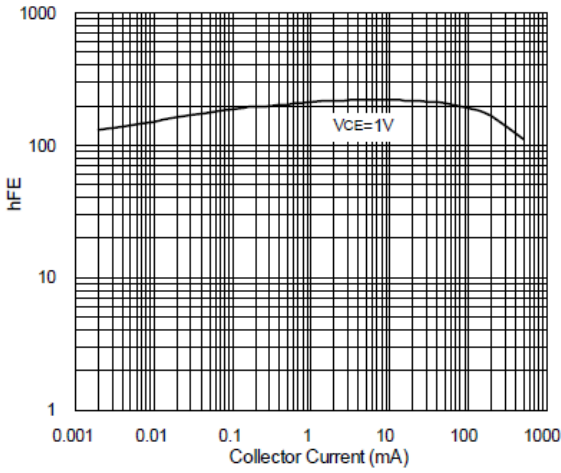


Figure 2. Saturation Voltage & Collector Current

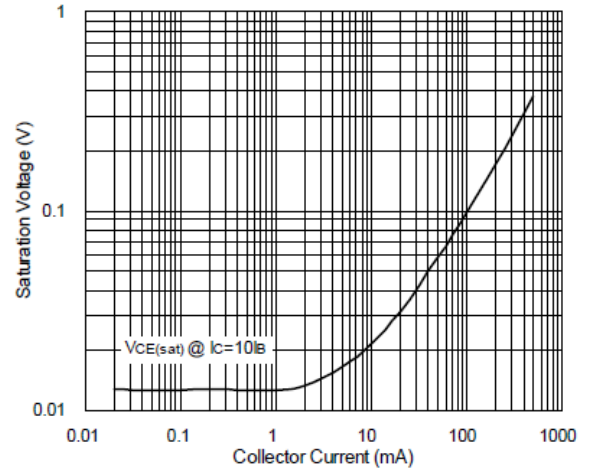


Figure 3. On Voltage & Collector Current

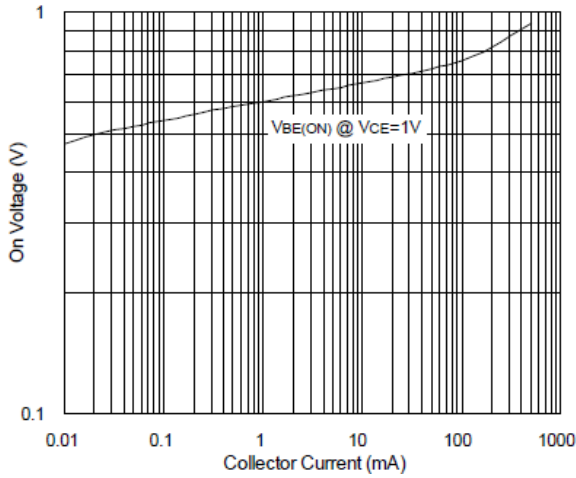


Figure 4. Cutoff Frequency & Collector Current

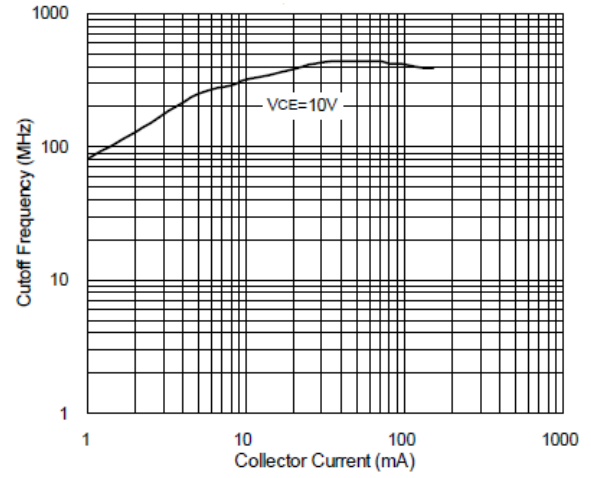
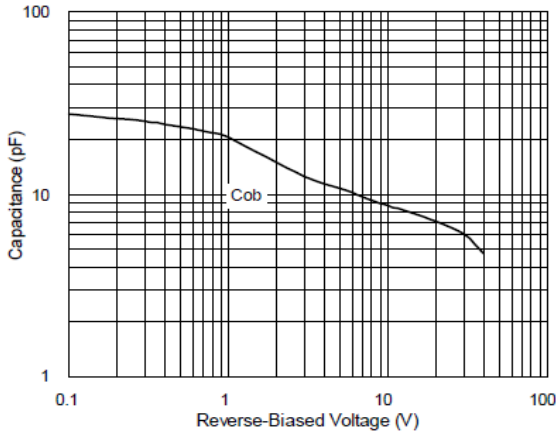


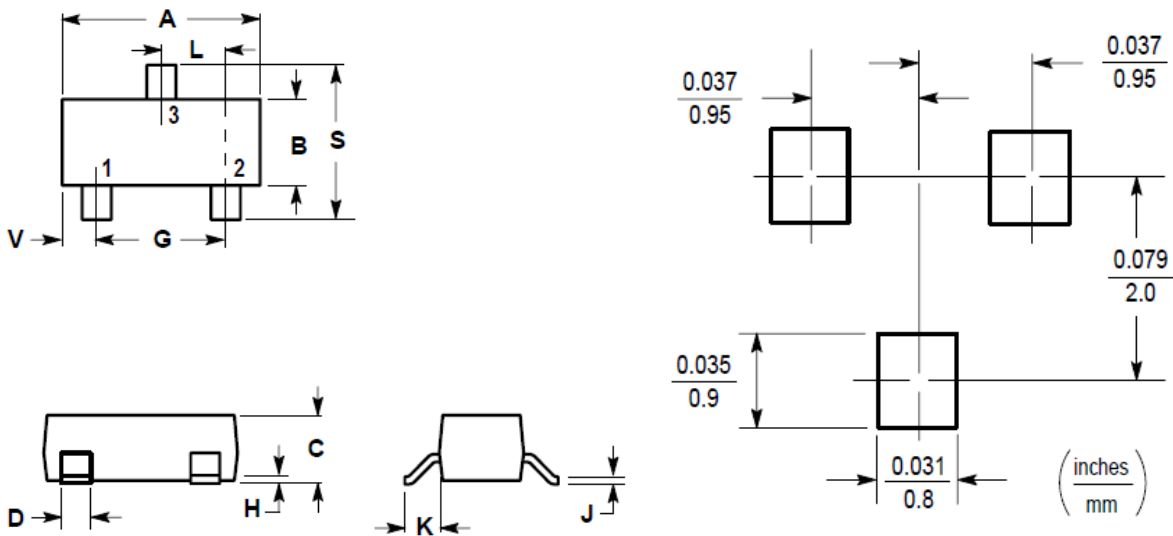
Figure 5. Capacitance & Reverse-Biased Voltage





PACKAGE INFORMATION

Dimension in SOT-23 Package (Unit: mm)



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



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