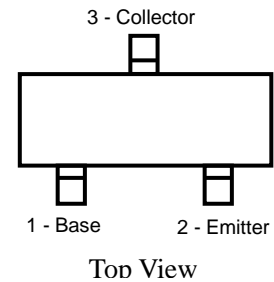


Feature

- PNP epitaxial planar silicon transistor


Mechanical Characteristics

- Lead finish:100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature:260°C
- Device meets MSL 1 requirements
- Pure tin plating: 7 ~ 17 um
- Pin flatness:≤3mil

Absolute maximum rating@25°C

Parameter	Symbol	Value	Units
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-150	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-160	V
Emitter -Base Breakdown Voltage	$V_{(BR)EBO}$	-5.0	V
Collector Current - Continuous	I_C	-0.6	A
Total Device Dissipation	P_D	300	mW
Thermal Resistance, Junction to Ambient	R_{qJA}	417	°C/W
Operating and Storage Junction Temperature Range	T_J T_{Stg}	-55to+150	°C

Electrical characteristics per line @ 25 °C (unless otherwise specified)

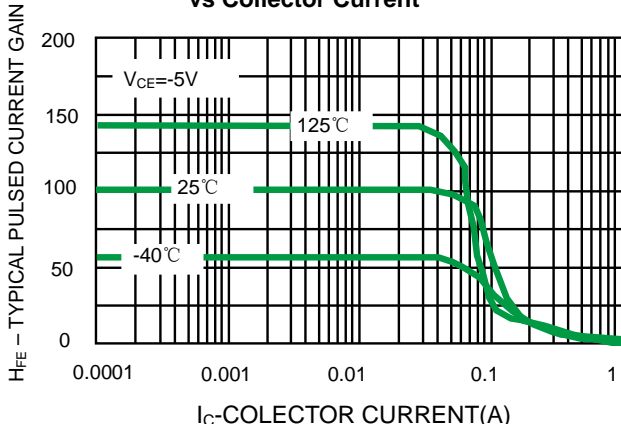
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
OFF CHARACTERISTICS						
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1.0mA, I_B=0$	-150	-	-	V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-100\mu A, I_E=0$	-160	-	-	V
Emitter -Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	-5.0	-	-	V
Collector Cutoff Current	I_{CBO}	$V_{CB}=-120V, I_E=0V$	-	-	-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-4V, I_C=0$	-	-	-0.1	μA
ON CHARACTERISTICS						
DC Current Gain	H_{FE}	$I_C=-1.0mA, V_{CE}=-5.0V$	80	-	240	-
		$I_C=-10mA, V_{CE}=-5.0V$	100	-		
		$I_C=-50mA, V_{CE}=-5.0V$	50	-		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-10mA, I_B=-1.0mA$	-	-	-0.2	V
		$I_C=-50mA, I_B=-5.0mA$	-	-	-0.5	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-10mA, I_B=-1.0mA$	-	-	-1.0	V
		$I_C=-50mA, I_B=-5.0mA$	-	-	-1.0	
SMALL SIGNAL CHARACTERISTICS						
Current-Gain-Bandwidth Product	f_T	$I_C=-10mA, V_{CE}=-10V,$ $f=100MHz$	100	-	300	MHz
Output Capacitance	C_{obo}	$V_{CB}=-10V, I_E=0,$ $f=1.0MHz$	-	-	6.0	pF
Noise Figure	NF	$V_{CE}=-5.0V, I_C=-250\mu A,$ $f=1.0kHz, R_S=1.0k\Omega$	-	-	8.0	dB

Notes: 1. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.

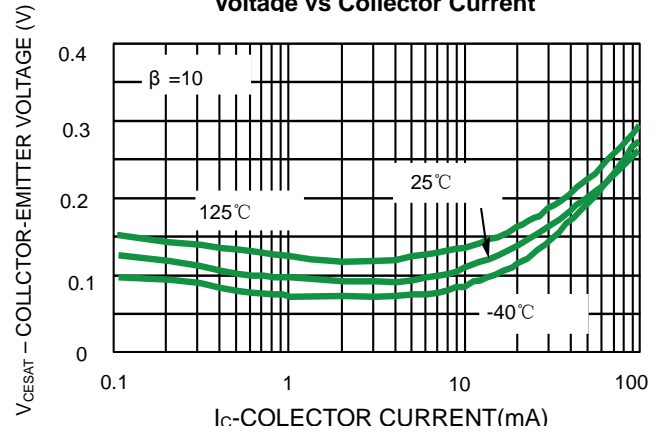
2. Short duration test pulse used to minimize self-heating effect.

Typical Characteristics

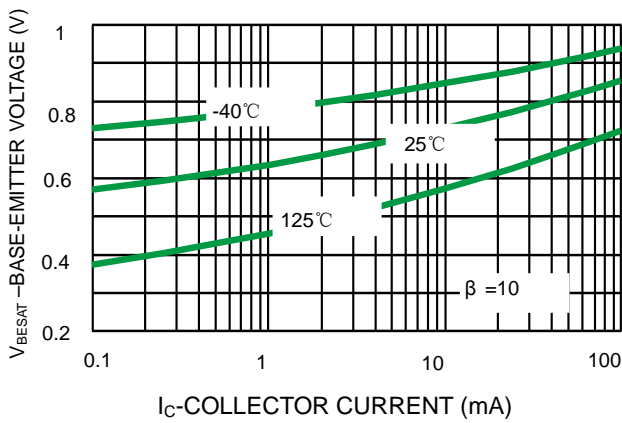
Typical Pulsed Gain vs Collector Current



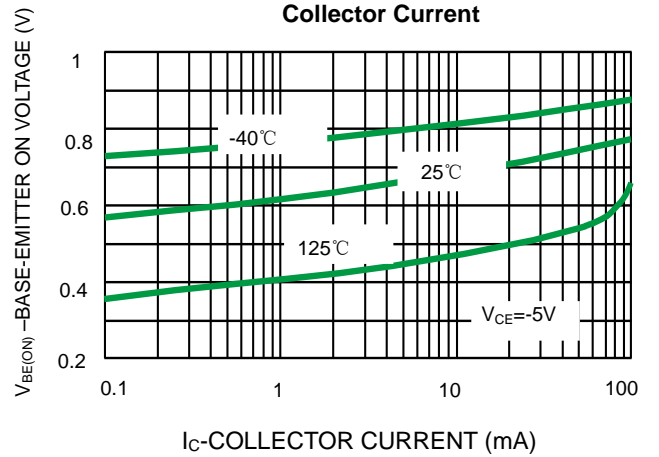
Collector-Emitter Saturation Voltage vs Collector Current



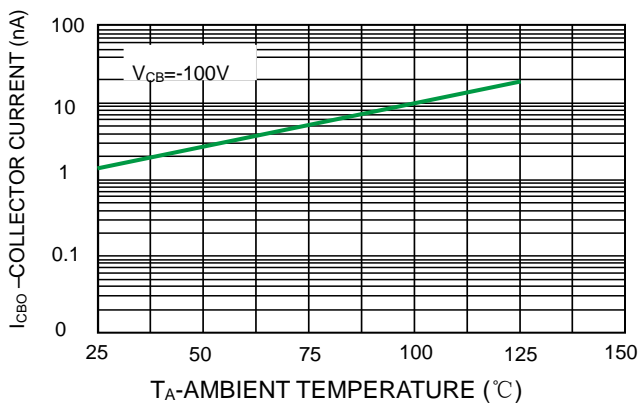
Base-Emitter Saturation Voltage vs Collector Current



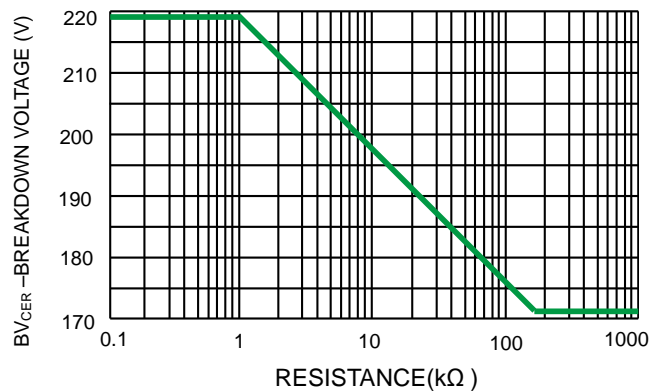
Base-Emitter ON Voltage vs Collector Current



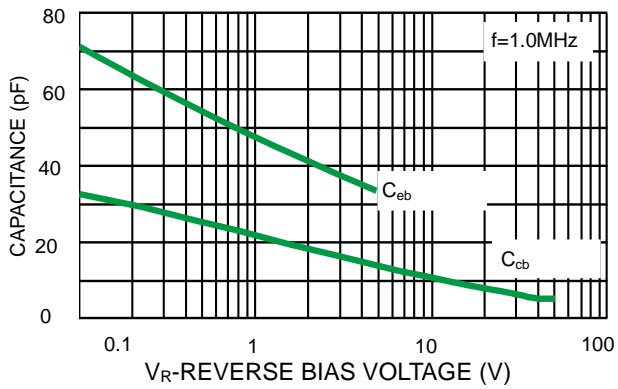
Collector-Cutoff Current vs Ambient Temperature



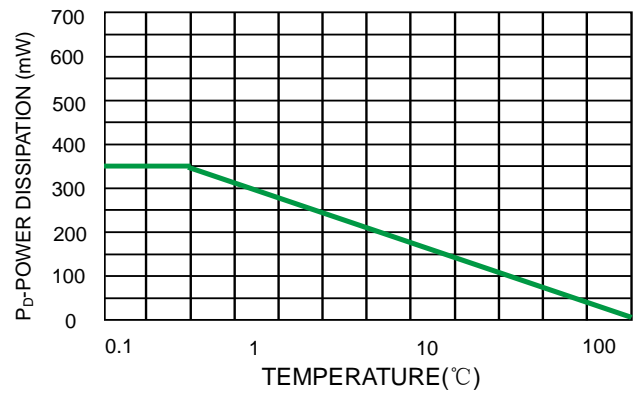
Collector-Emitter Breakdown Voltage with Resistance Between Emitter-Base



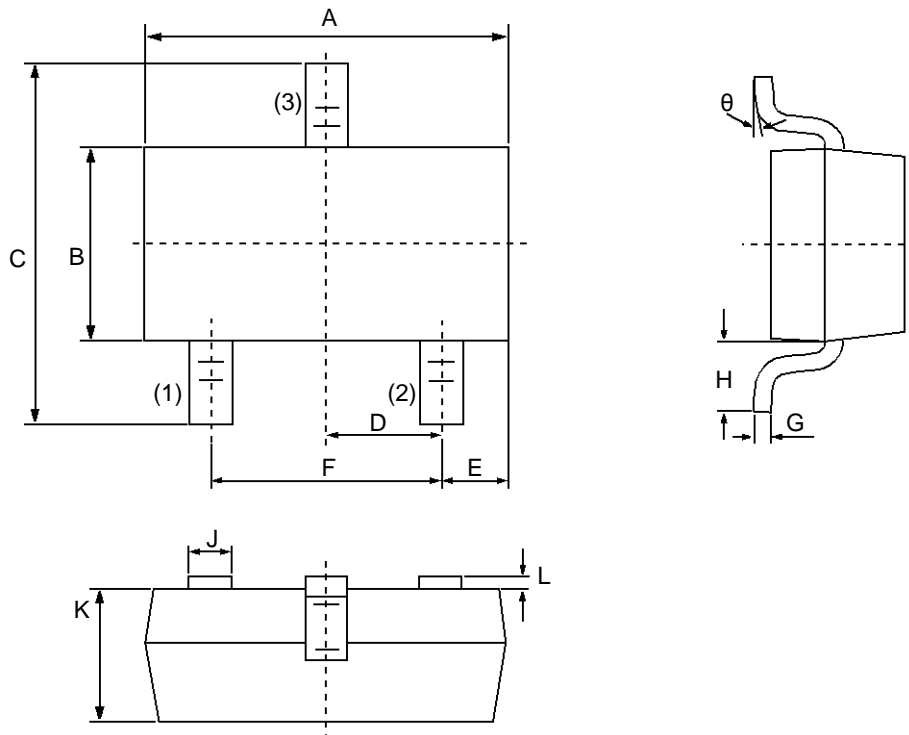
Input and Capacitance vs Reverse Voltage



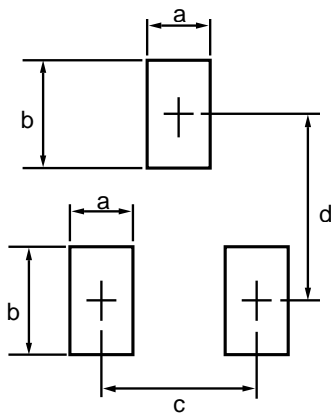
Power Dissipation vs Ambient Temperature



Product dimension(SOT-23)

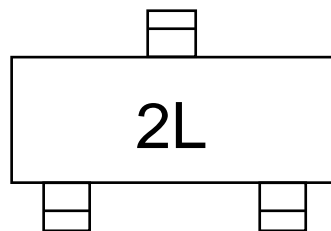


Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	2.80	3.00	0.1102	0.1197
B	1.20	1.40	0.0472	0.0551
C	2.10	2.50	0.0830	0.0984
D	0.89	1.02	0.0350	0.0401
E	0.45	0.60	0.0177	0.0236
F	1.78	2.04	0.0701	0.0807
G	0.085	0.177	0.0034	0.0070
H	0.45	0.60	0.0180	0.0236
J	0.37	0.50	0.0150	0.0200
K	0.89	1.11	0.0350	0.0440
L	0.013	0.100	0.0005	0.0040
θ	0°	10°	0°	10°



Dim	Millimeters	
	MIN	MAX
a	--	0.7
b	--	1.2
c	--	2.04
d	--	2.2


Marking information



Ordering information

Device	Package	Reel	Shipping
PT23T5401	SOT-23 (Pb-Free)	7"	3000 / Tape & Reel

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