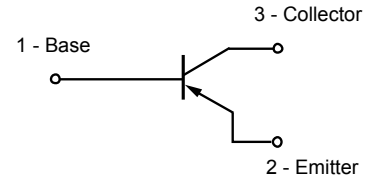


Feature

- This device is Pb-Free, Halogen Free/BFR Free and Rohs compliant.



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

Structure

PNP epitaxial planar silicon transistor

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1.0mA, I_B=0$	-40			V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10uA, I_E=0$	-60			V
Emitter -Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10uA, I_C=0$	-6.0			V
Base Cutoff Current	I_{BL}	$V_{CE}=-30V, V_{EB}=-3.0V$			-50	nA
Collector Cutoff Current	I_{CEX}	$V_{CE}=-30V, V_{EB}=-3.0V$			-50	nA

Absolute maximum rating@25°C

Rating	Symbol	Value	Units
Total Device Dissipation $T_A=25^\circ C$	P_D	150	mW
Operating Temperature	T_J	-55 to +150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Absolute maximum rating@25°C

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
DC Current Gain	H_{FE}	$I_C=-0.1\text{mA}, V_{CE}=-1.0\text{V}$	60		-	-
		$I_C=-1.0\text{mA}, V_{CE}=-1.0\text{V}$	80		-	
		$I_C=-10\text{mA}, V_{CE}=-1.0\text{V}$	100		300	
		$I_C=-50\text{mA}, V_{CE}=-1.0\text{V}$	60		-	
		$I_C=-100\text{mA}, V_{CE}=-1.0\text{V}$	30		-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-10\text{mA}, I_B=-1.0\text{mA}$	-		-0.25	V
		$I_C=-50\text{mA}, I_B=-5.0\text{mA}$	-		-0.4	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-10\text{mA}, I_B=-1.0\text{mA}$	-0.65		-0.85	V
		$I_C=-50\text{mA}, I_B=-5.0\text{mA}$	-		-0.95	

Small-Signal Characteristics

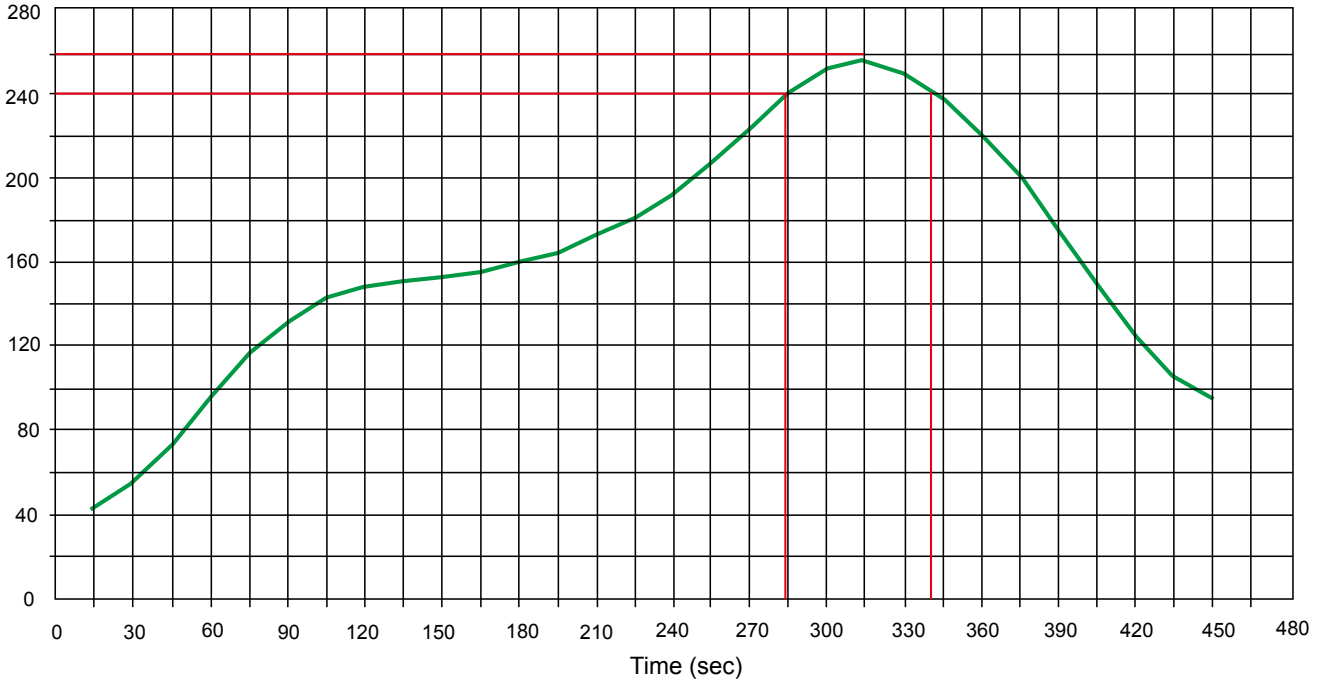
Parameter	Symbol	Conditions	Min.	Max.	Units
Current-Gain-Bandwidth Product	f_T	$I_C=-10\text{mA}, V_{CE}=-20\text{V}, f=100\text{MHz}$	250	-	MHz
Output Capacitance	C_{obo}	$V_{CB}=-5.0\text{V}, I_E=0, f=1.0\text{MHz}$	-	4.5	pF
Input Capacitance	C_{ibo}	$V_{EB}=-0.5\text{V}, I_C=0, f=1.0\text{MHz}$	-	10	pF
Input Impedance	h_{ie}	$I_C=-1.0\text{mA}, V_{CE}=-10\text{V}, f=1.0\text{kHz}$	2.0	12	k Ω
Voltage Feedback Ratio	h_{re}	$I_C=-1.0\text{mA}, V_{CE}=-10\text{V}, f=1.0\text{kHz}$	0.1	10	$\times 10^{-4}$
Small-Signal Current Gain	h_{fe}	$I_C=-1.0\text{mA}, V_{CE}=-10\text{V}, f=1.0\text{kHz}$	100	400	-
Output Admittance	h_{oe}	$I_C=-1.0\text{mA}, V_{CE}=-10\text{V}, f=1.0\text{kHz}$	3.0	60	umhos
Noise Figure	NF	$V_{CE}=5.0\text{V}, I_C=0.1\text{mA}, f=1.0\text{kHz}$ $R_S=1.0\text{k}\Omega$	-	4.0	dB

Switching Characteristics

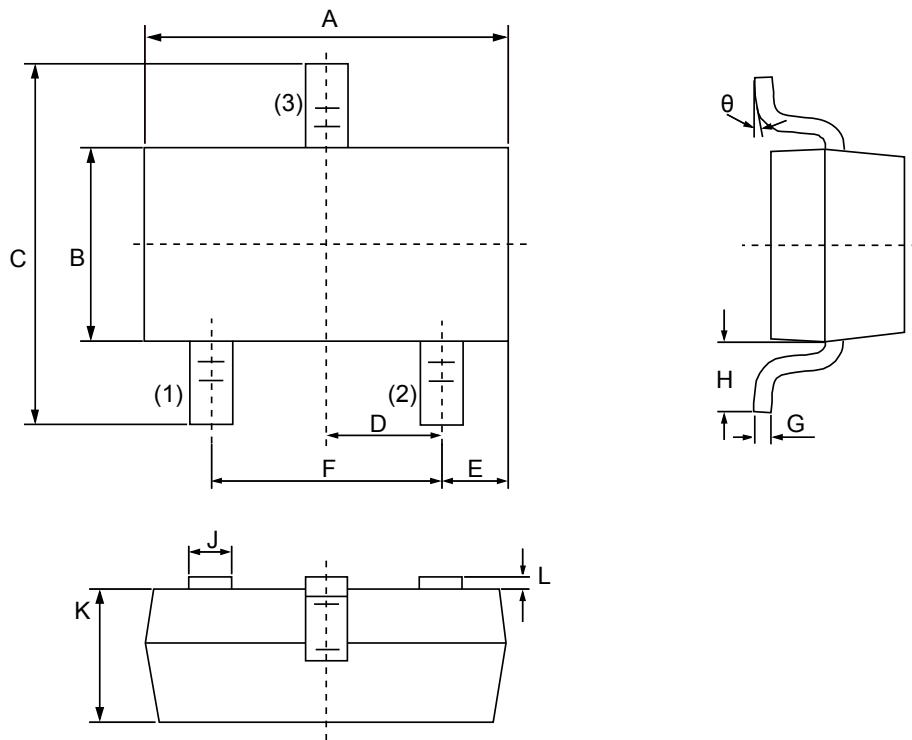
Parameter	Symbol	Conditions	Min.	Max.	Units
Delay Time	t_d	$V_{CC}=-3.0\text{V}, V_{BE}=0.5\text{V}.$ $I_C=-10\text{mA}, I_{B1}=-1.0\text{mA}$	-	35	ns
Rise Time	t_r		-	35	
Storage Time	t_s	$V_{CC}=-3.0\text{V}$	-	225	
Fall Time	t_f	$I_C=-10\text{mA}, I_{B1}=I_{B2}=-1.0\text{mA}$	-	75	

Solder Reflow Recommendation

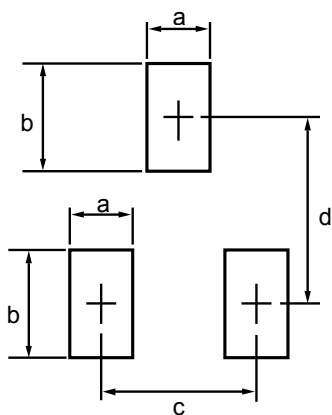
Peak Temp=257°C, Ramp Rate=0.802deg. °C/sec



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

Ordering information

Device	Package	Shipping
PT23T3906	SOT-23 (Pb-Free)	3000 / Tape & Reel


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