



### Features

- Epitaxial Planar Die Construction
- Ideal for low Power Amplification and Switching
- One 5551(NPN), one 5401(PNP)

### Ordering Information

- Shipping Qty:3000/7inch Tape& Reel



### Circuit Diagram



### Absolute Maximum Ratings NPN 5551 (Tamb=25°C unless otherwise specified)

Symbol	Parameter	Value	Units
V <sub>CB0</sub>	Collector- Base Voltage	180	V
V <sub>CEO</sub>	Collector-Emitter Voltage	160	V
V <sub>EBO</sub>	Emitter-Base Voltage	6	V
I <sub>C</sub>	Collector Current -Continuous	0.2	A
P <sub>C</sub>	Collector Power Dissipation	0.2	W
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient	625	°C/W
T <sub>J</sub> , T <sub>stg</sub>	Operation Junction and Storage Temperature Range	-55~+150	°C



**Electrical Characteristics NPN 5551 (TA=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	180			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	160			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	6			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=120V, I_E=0$			0.05	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4V, I_C=0$			0.05	$\mu A$
DC current gain	$h_{FE1}$	$V_{CE}=5V, I_C=1mA$	80			
	$h_{FE2}$	$V_{CE}=5V, I_C=10mA$	100		300	
	$h_{FE3}$	$V_{CE}=5V, I_C=50mA$	30			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1mA$			0.15	V
		$I_C=50mA, I_B=5mA$			0.2	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=10mA, I_B=1mA$			1	V
		$I_C=50mA, I_B=5mA$			1	V
Output Capacitance	$C_{obo}$	$V_{CB} = 10V, f = 1.0MHz, I_E = 0$			6.0	pF
Current Gain-Bandwidth Product	$f_T$	$V_{CE} = 10V, I_C = 10mA, f = 100MHz$	100		300	MHz
Noise Figure	NF	$V_{CE}= 5.0V, I_C = 200\mu A,$ $R_S = 1.0k\Omega, f = 1.0kHz$			8.0	dB



**MAXIMUM RATINGS PNP 5401 (T<sub>a</sub>=25°C unless otherwise noted)**

Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector- Base Voltage	-160	V
V <sub>CEO</sub>	Collector-Emitter Voltage	-150	V
V <sub>EBO</sub>	Emitter-Base Voltage	-5	V
I <sub>C</sub>	Collector Current -Continuous	-0.2	A
P <sub>C</sub>	Collector Power Dissipation	0.2	W
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient	625	°C/W
T <sub>J</sub> , T <sub>stg</sub>	Operation Junction and Storage Temperature Range	-55~+150	°C

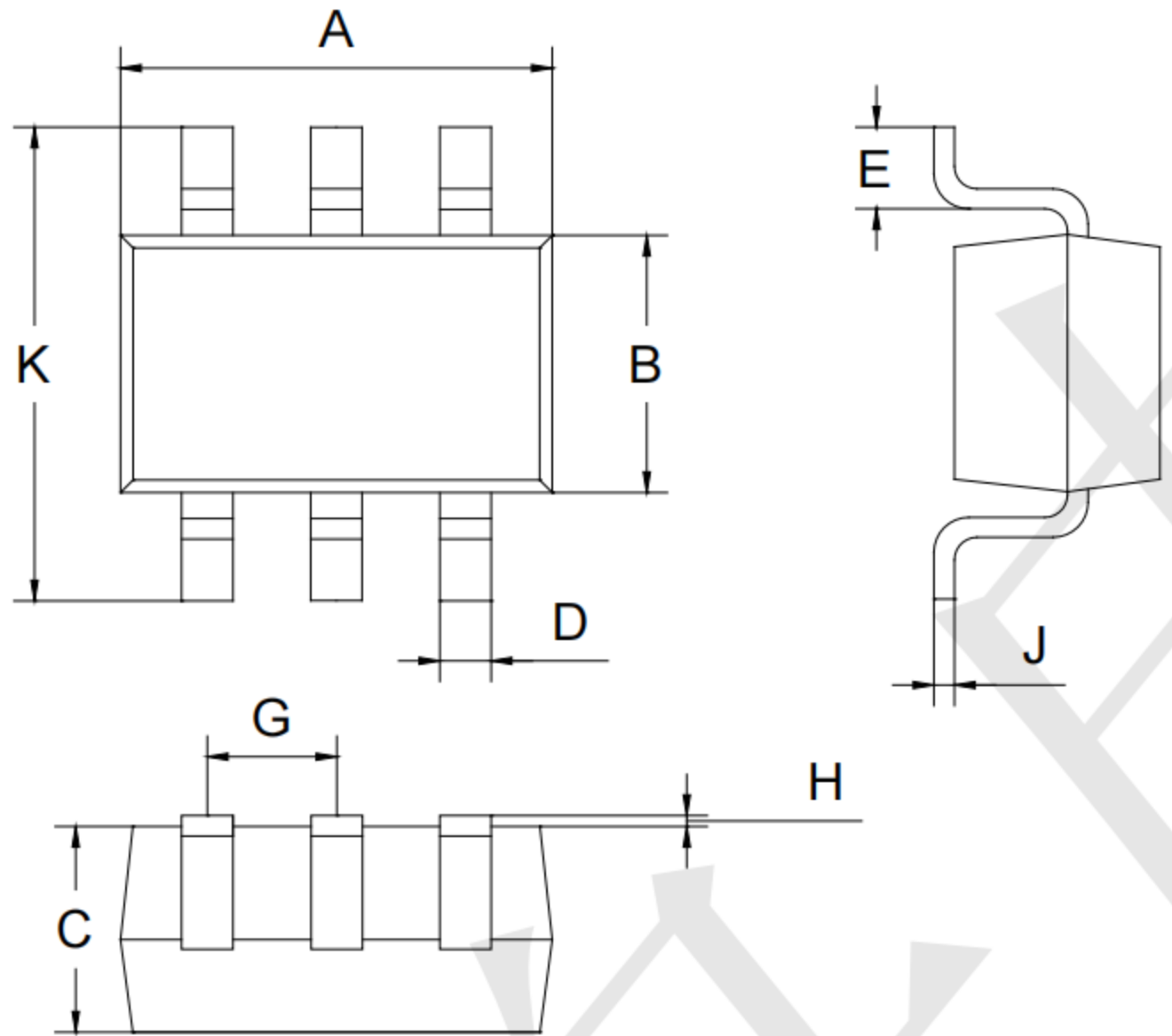
**ELECTRICAL CHARACTERISTICS PNP 5401 (T<sub>a</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =-100μA, I <sub>E</sub> =0	-160			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =-1mA, I <sub>B</sub> =0	-150			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =-10μA, I <sub>C</sub> =0	-5			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =-120V, I <sub>E</sub> =0			-50	nA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =-3V, I <sub>C</sub> =0			-50	nA
DC current gain	h <sub>FE1</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-1mA	50			
	h <sub>FE2</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-10mA	100		300	
	h <sub>FE3</sub>	V <sub>CE</sub> =-5V, I <sub>C</sub> =-50mA	50			
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-10mA, I <sub>B</sub> =-1mA			-0.2	V
		I <sub>C</sub> =-50mA, I <sub>B</sub> =-5mA			-0.5	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =-10mA, I <sub>B</sub> =-1mA			-1	V
		I <sub>C</sub> =-50mA, I <sub>B</sub> =-5mA			-1	V
Output Capacitance	C <sub>obo</sub>	V <sub>CB</sub> =-10V, f = 1.0MHz, I <sub>E</sub> = 0			6.0	pF
Current Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =-10V, I <sub>C</sub> =-10mA, f = 100MHz	100		300	MHz
Noise Figure	NF	V <sub>CE</sub> =-5.0V, I <sub>C</sub> =-200μA, R <sub>S</sub> = 10 Ω, f = 1.0kHz			8.0	dB





Outline Drawing - SOT363 (unit: mm)



SOT-363		
Dim	Min	Max
A	2.00	2.20
B	1.15	1.35
C	0.85	1.05
D	0.15	0.35
E	0.25	0.40
G	0.60	0.70
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40

Mounting Pad Layout-SOT363 (unit: mm)

