

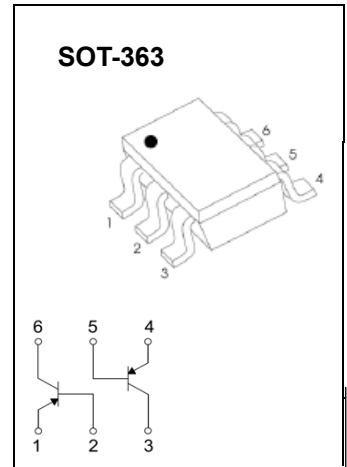


**Plastic-Encapsulate Transistors**

DUAL TRANSISTOR (PNP+PNP)

**FEATURES**

- Epitaxial planar die construction
- Ideal for low power amplification and switching



**MARKING:K3N**

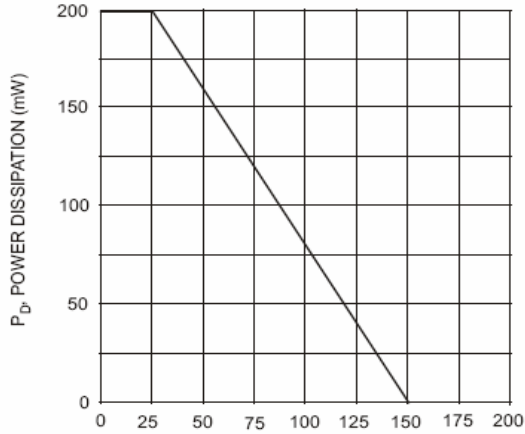
**MAXIMUM RATINGS(T<sub>a</sub>=25°C unless otherwise noted)**

Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector-Base Voltage	-40	V
V <sub>CEO</sub>	Collector-Emitter Voltage	-40	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 Air	625	°C/W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55-150	°C

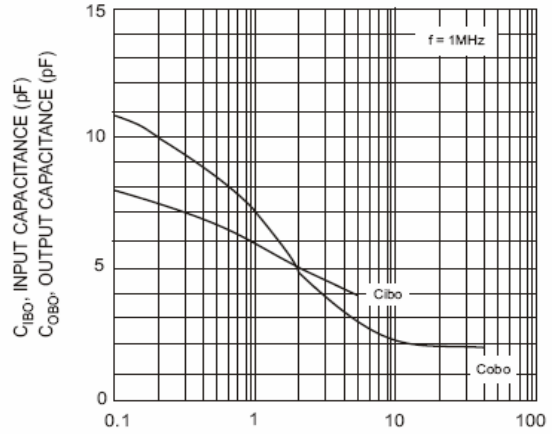
**ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =-10μA, I <sub>E</sub> =0	-40			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =-1mA, I <sub>B</sub> =0	-40			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>CEX</sub>	V <sub>CE</sub> =-30V, V <sub>EB(OFF)</sub> =-3V			-50	nA
Base cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =-5V, I <sub>C</sub> =0			-50	nA
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =-1V, I <sub>C</sub> =-0.1mA	60			
	h <sub>FE(2)</sub>	V <sub>CE</sub> =-1V, I <sub>C</sub> =-1mA	80			
	h <sub>FE(3)</sub>	V <sub>CE</sub> =-1V, I <sub>C</sub> =-10mA	100		300	
	h <sub>FE(4)</sub>	V <sub>CE</sub> =-1V, I <sub>C</sub> =-50mA	60			
	h <sub>FE(5)</sub>	V <sub>CE</sub> =-1V, I <sub>C</sub> =-100mA	30			
Collector-emitter saturation voltage	V <sub>CE(sat)1</sub>	I <sub>C</sub> =-10mA, I <sub>B</sub> =-1mA			-0.25	V
	V <sub>CE(sat)2</sub>	I <sub>C</sub> =-50mA, I <sub>B</sub> =-5mA			-0.4	V
Base-emitter saturation voltage	V <sub>BE(sat)1</sub>	I <sub>C</sub> =-10mA, I <sub>B</sub> =-1mA	-0.65		-0.85	V
	V <sub>BE(sat)2</sub>	I <sub>C</sub> =-50mA, I <sub>B</sub> =-5mA			-0.95	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =-20V, I <sub>C</sub> =-10mA, f=100MHz	250			MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-5V, I <sub>E</sub> =0, f=1MHz			4.5	pF
Noise figure	NF	V <sub>CE</sub> =-5V, I <sub>C</sub> =-0.1mA, f=1KHz, R <sub>g</sub> =1KΩ			4	dB
Delay time	t <sub>d</sub>	V <sub>CC</sub> =-3V, V <sub>BE</sub> =0.5V			35	nS
Rise time	t <sub>r</sub>	I <sub>C</sub> =-10mA, I <sub>B1</sub> =-I <sub>B2</sub> =-1mA			35	nS
Storage time	t <sub>s</sub>	V <sub>CC</sub> =-3V, I <sub>C</sub> =-10mA			225	nS
Fall time	t <sub>f</sub>	I <sub>B1</sub> =-I <sub>B2</sub> =-1mA			75	nS

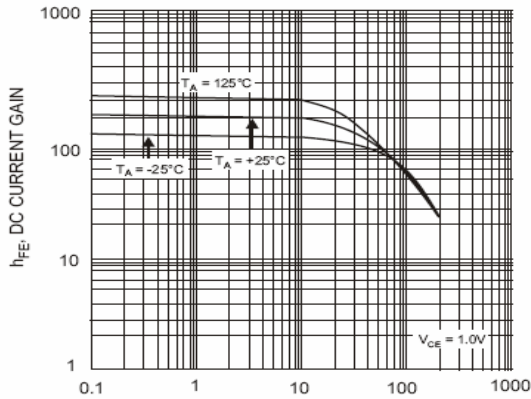
TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified



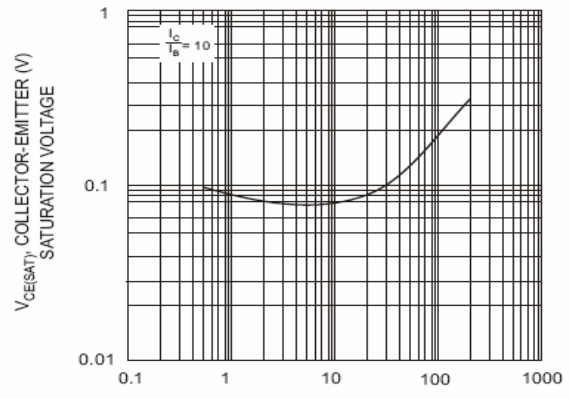
$T_A$ , AMBIENT TEMPERATURE ( $^\circ\text{C}$ )  
Fig. 1, Max Power Dissipation vs Ambient Temperature



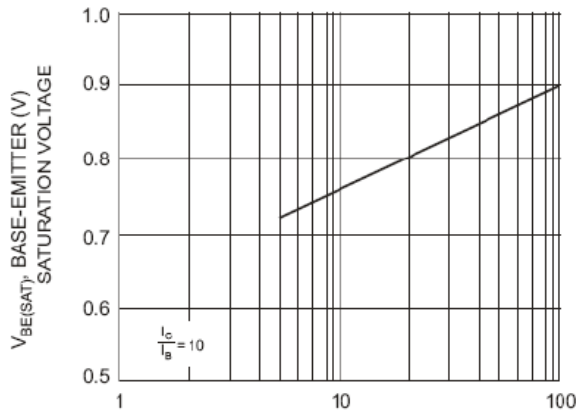
$V_{CB}$ , COLLECTOR-BASE VOLTAGE (V)  
Fig. 2, Input and Output Capacitance vs. Collector-Base Voltage



$I_C$ , COLLECTOR CURRENT (mA)  
Fig. 3, Typical DC Current Gain vs Collector Current



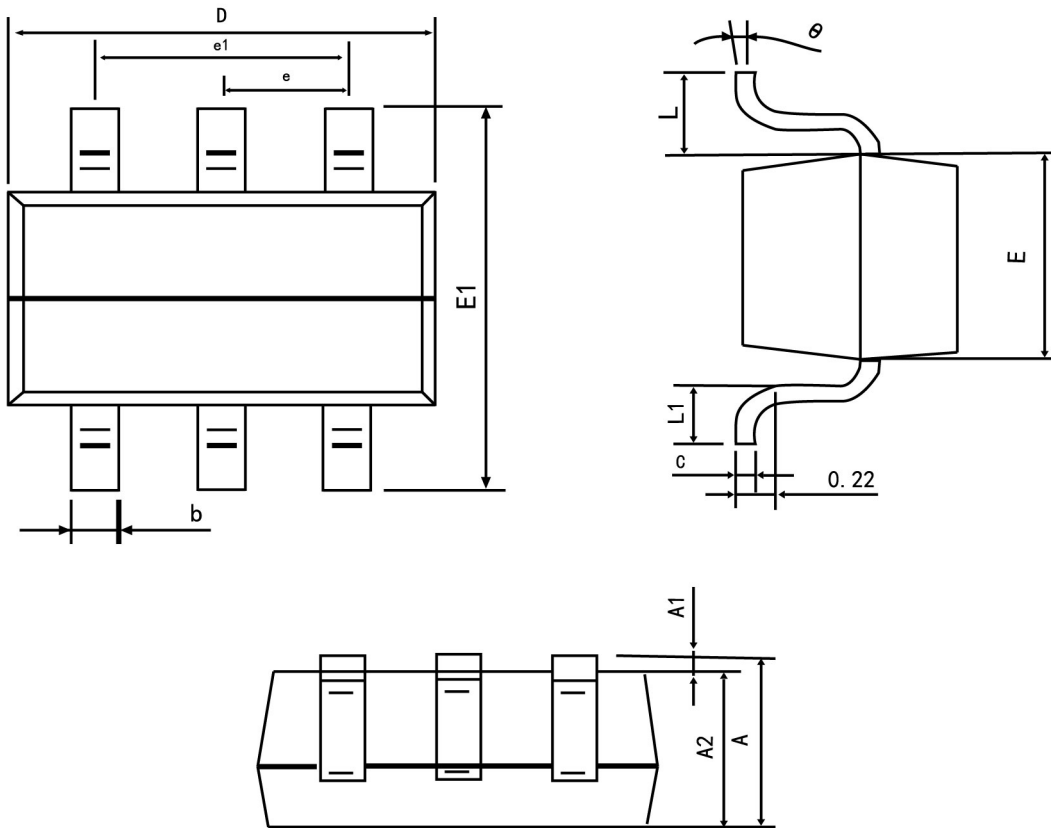
$I_C$ , COLLECTOR CURRENT (mA)  
Fig. 4, Typical Collector-Emitter Saturation Voltage vs. Collector Current



$I_C$ , COLLECTOR CURRENT (mA)  
Fig. 5, Typical Base-Emitter Saturation Voltage vs. Collector Current



## SOT-363-Package Outline Dimensions



Symbol	Dimension in Millimeters	
	Min	Max
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.350
c	0.080	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.450
e	0.650 TYP	
e1	1.200	1.400
L	0.525 REF	
L1	0.260	0.460
θ	0°	8°