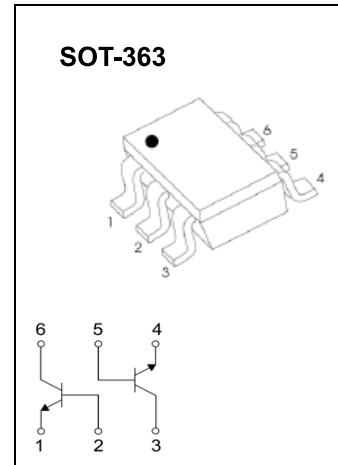


**FEATURES**

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

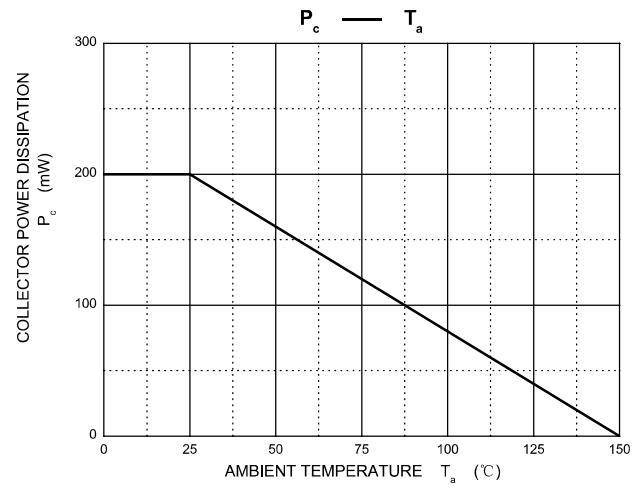
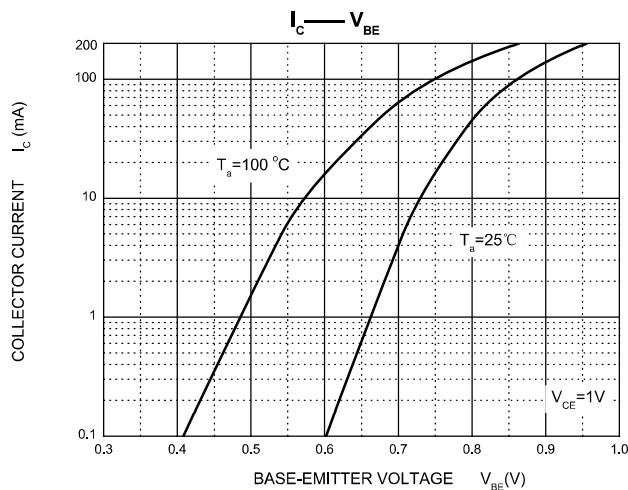
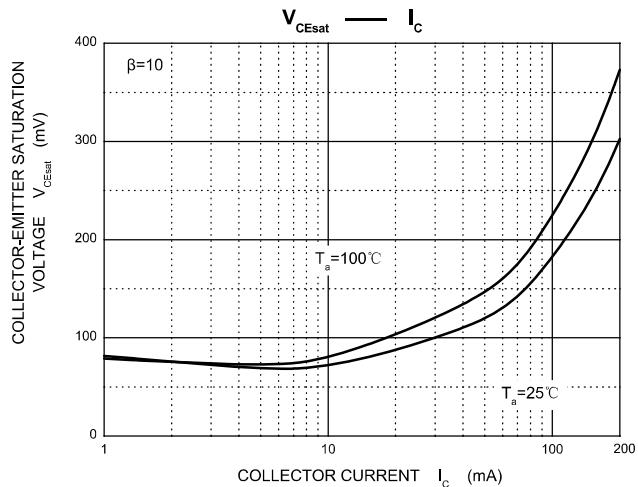
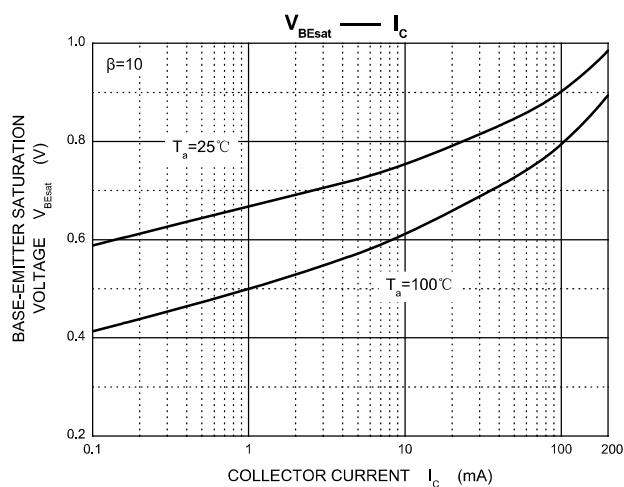
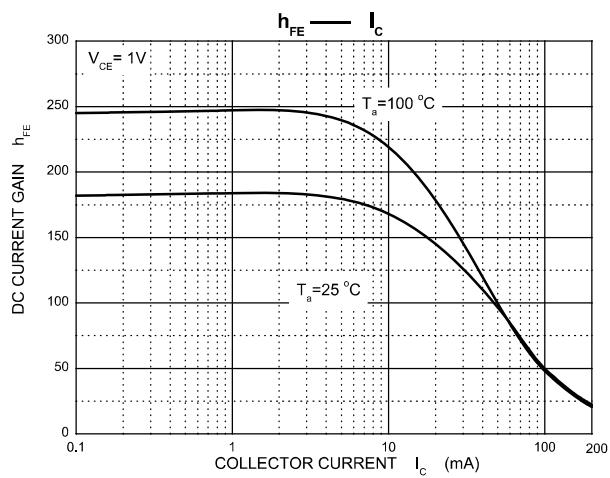
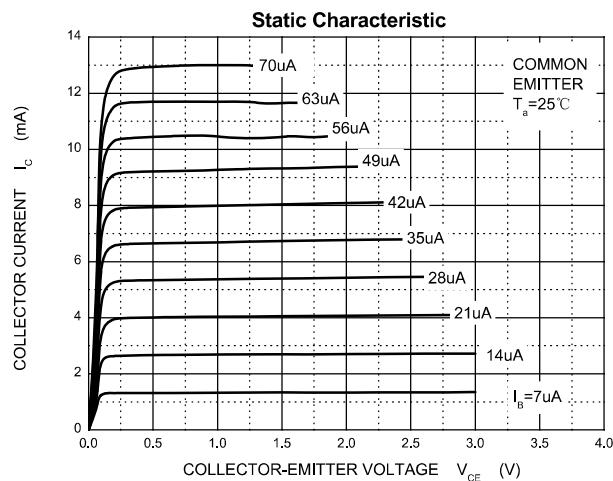
**MARKING:K6N**

**MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$  unless otherwise noted)**

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	40	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_c$	Collector Current -Continuous	0.2	A
$P_c$	Collector Power Dissipation	0.2	W
$T_J, T_{stg}$	Operation Junction and Storage Temperature Range	-55~+150	°C

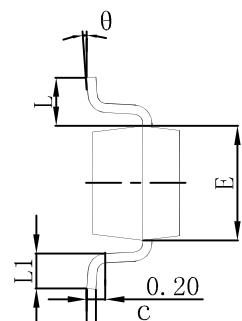
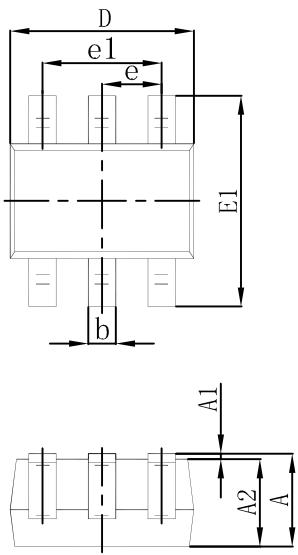
**ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$  unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=30\text{V}, I_E=0$			0.05	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$			0.05	$\mu\text{A}$
Collector cut-off current	$I_{CEX}$	$V_{CE}=30\text{V}, V_{BE(off)}=3\text{V}$			0.05	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE}=1\text{V}, I_C=0.1\text{mA}$	40			
	$h_{FE(2)}$	$V_{CE}=1\text{V}, I_C=1\text{mA}$	70			
	$h_{FE(3)}$	$V_{CE}=1\text{V}, I_C=10\text{mA}$	100		300	
	$h_{FE(4)}$	$V_{CE}=1\text{V}, I_C=50\text{mA}$	60			
	$h_{FE(5)}$	$V_{CE}=1\text{V}, I_C=100\text{mA}$	30			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.2	V
	$V_{CE(sat)2}$	$I_C=50\text{mA}, I_B=5\text{mA}$			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	$I_C=10\text{mA}, I_B=1\text{mA}$	0.65		0.85	V
	$V_{BE(sat)2}$	$I_C=50\text{mA}, I_B=5\text{mA}$			0.95	V
Transition frequency	$f_T$	$V_{CE}=20\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	300			MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=5\text{V}, I_E=0, f=1\text{MHz}$			4	pF
Noise figure	NF	$V_{CE}=5\text{V}, I_C=0.1\text{mA}, f=1\text{kHz}, R_S=1\text{K}\Omega$			5	dB
Delay time	$t_d$	$V_{CC}=3\text{V}, V_{BE(off)}=-0.5\text{V}$			35	nS
Rise time	$t_r$	$I_C=10\text{mA}, I_{B1}=-I_{B2}=1\text{mA}$			35	nS
Storage time	$t_s$	$V_{CC}=3\text{V}, I_C=10\text{mA}$			200	nS
Fall time	$t_f$	$I_{B1}=-I_{B2}=1\text{mA}$			50	nS

### Typical Characteristics

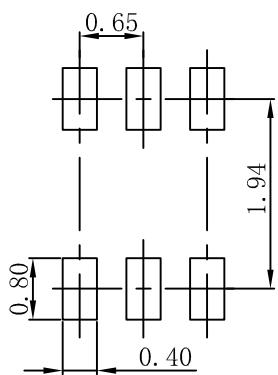


### SOT-363 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.100	0.150	0.004	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.400	0.085	0.094
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

### SOT-363 Suggested Pad Layout



#### Note:

1. Controlling dimension:in millimeters.
2. General tolerance: $\pm 0.05$ mm.
3. The pad layout is for reference purposes only.

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