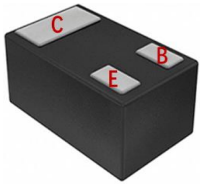
TK3906LED03

TRANSISTOR (PNP)

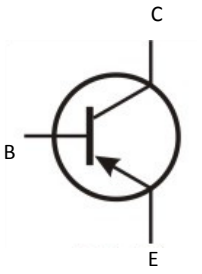
FEATURE

- Ultra Small SMD Plastic Package
- Epitaxial Planar Die Construction
- Complementary to TK3904LED03
- Available in Lead Free Version

DFN1006-3L



Schematic diagram



APPLICATION

- General-Purpose Amplification and Switching Transistor for Portable Equipment :(i.e. Mobile phone, MP3, MD, CD-ROM, DVD-ROM, Note book PC, etc.)

MARKING: 3N



Top View

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-200	mA
P_C	Collector Power Dissipation	100	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	1250	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55～+150	℃

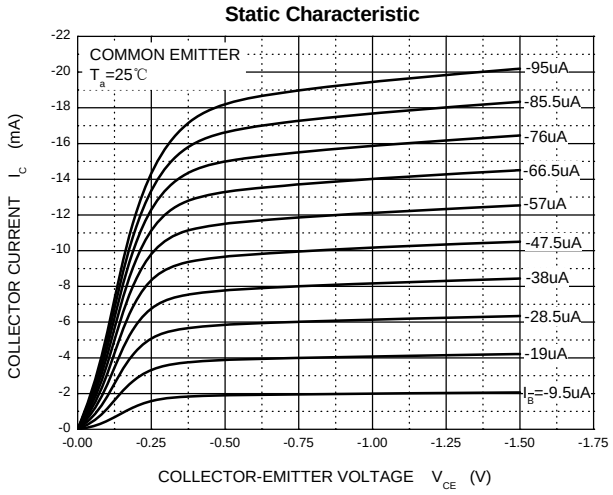
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

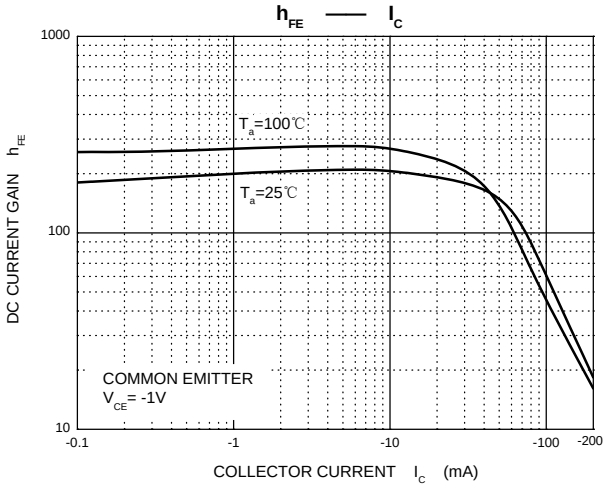
Parameter	Symbol	Test condition	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-10μA, I_E=0	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-1mA, I_B=0	-40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-10μA, I_C=0	-5			V
Collector cut-off current	I_{CEX}	V_{CE}=-30V, $V_{EB(off)}$=-3V			-50	nA
Emitter cut-off current	I_{EBO}	V_{EB}=-5V, I_C=0			-100	nA
DC current gain	$h_{FE(1)}$	V_{CE}=-1V, I_C=-0.1mA	60			
	$h_{FE(2)}$	V_{CE}=-1V, I_C=-1mA	80			
	$h_{FE(3)}$	V_{CE}=-1V, I_C=-10mA	100		300	
	$h_{FE(4)}$	V_{CE}=-1V, I_C=-50mA	60			
	$h_{FE(5)}$	V_{CE}=-1V, I_C=-100mA	30			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	I_C=-10mA, I_B=-1mA			-0.25	V

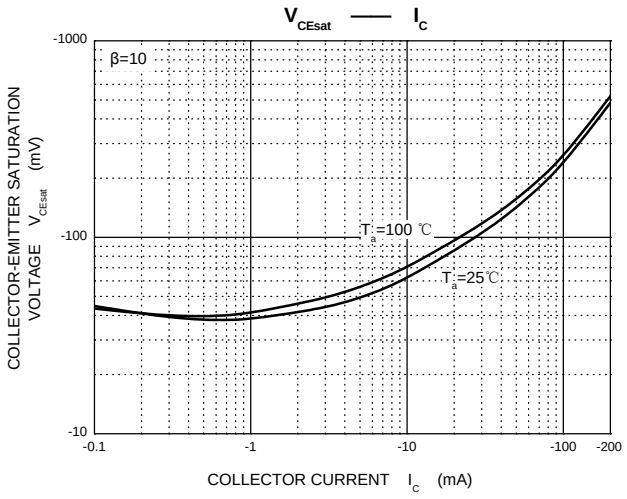
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

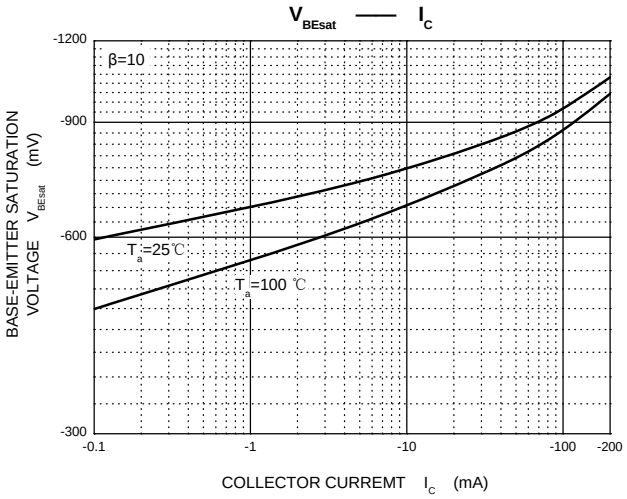
	$V_{CE(sat)2}$	I_C=-50mA, I_B=-5mA			-0.4	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	I_C=-10mA, I_B=-1mA	-0.65		-0.85	V
	$V_{BE(sat)2}$	I_C=-50mA, I_B=-5mA			-0.95	V
Transition frequency	f_T	V_{CE}=-20V,I_C=-10mA,f=100MHz	250			MHz
Collector output capacitance	C_{ob}	V_{CB}=-5V, I_E=0, f=1MHz			4.5	pF
Base Input capacitance	C_{ib}	V_{EB}=-0.5V, I_E=0, f=1MHz			10	pF
Noise figure	NF	V_{CE}=-5V, I_E=-0.1mA, f=1kHz, R_G=1kΩ			4	dB
Delay time	t_d	V_{CC}=-3V,$V_{BE(OFF)}$=0.5V,			35	ns
Rise time	t_r	I_C=-10mA,I_{B1}=-1mA			35	ns
Storage time	t_s	V_{CC}=-3V, I_C=-10mA,			225	ns
Fall time	t_f	I_{B1}= I_{B2}=- 1mA			75	ns

Typical Characteristics

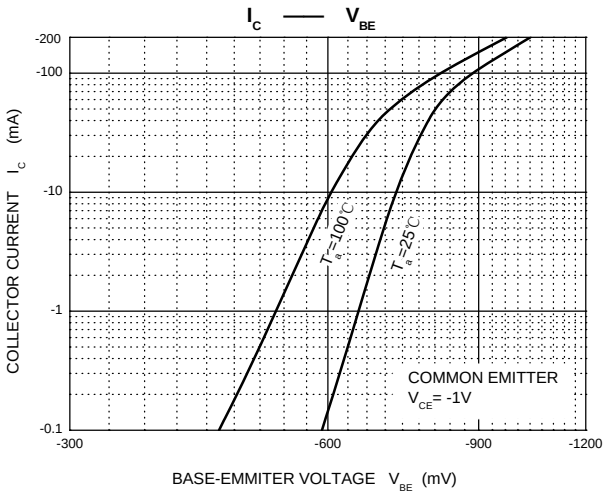


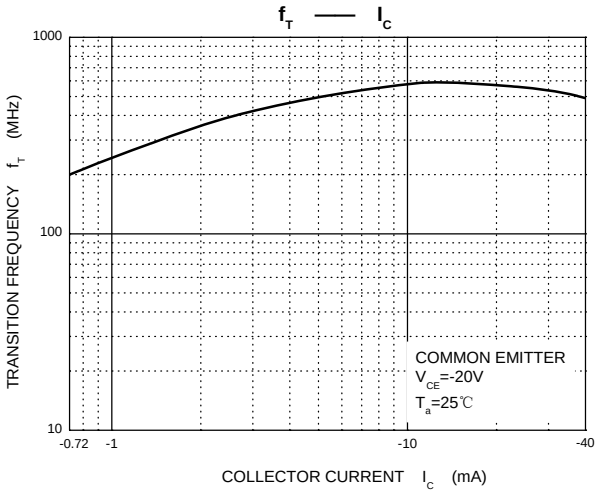


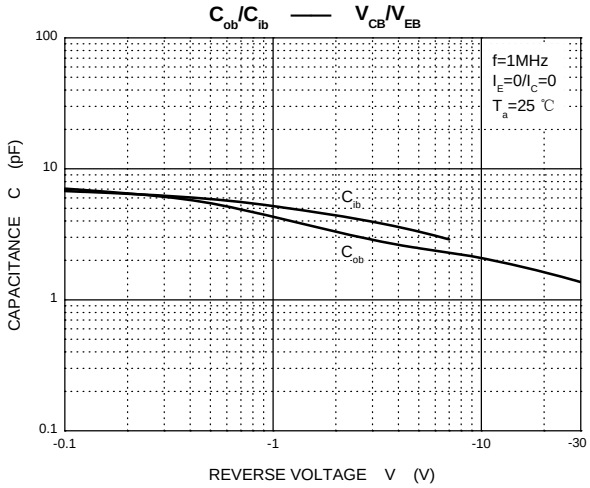


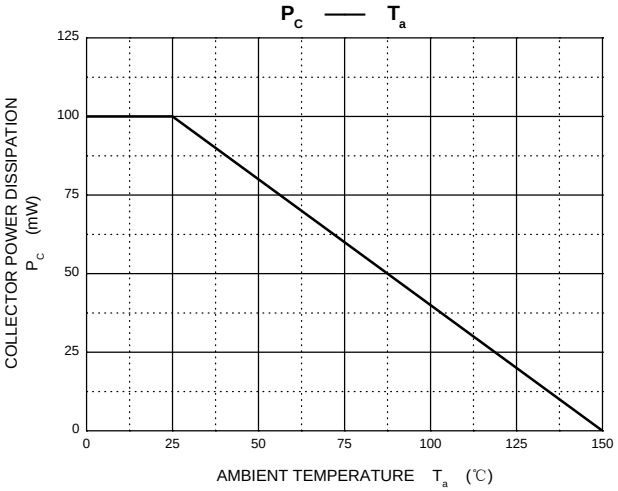


Typical Characteristics

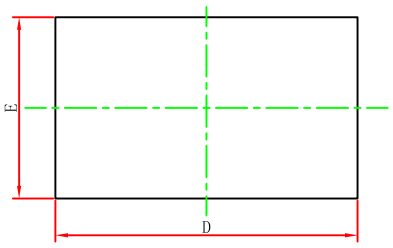




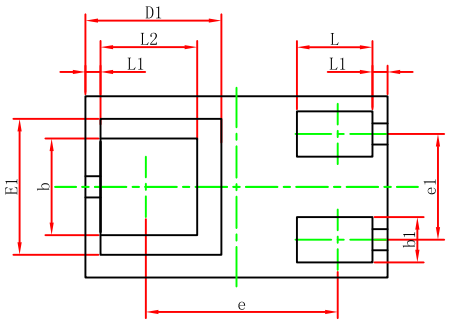




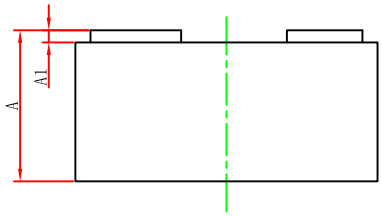
DFN1006-3L Package Outline Dimensions



TOP VIEW



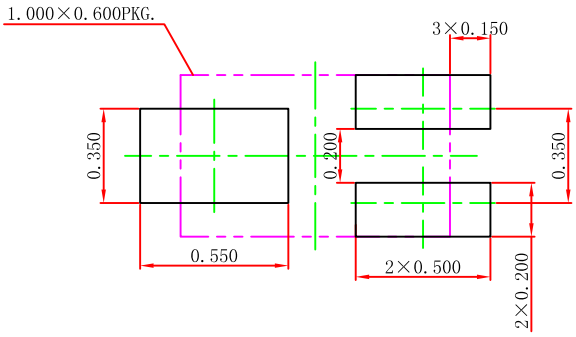
BOTTOM VIEW



SIDE VIEW

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.450	0.550	0.018	0.022
A1	0.010	0.100	0.000	0.004
D	0.950	1.050	0.037	0.041
E	0.550	0.650	0.022	0.026
D1	0.450REF.		0.018REF.	
E1	0.450REF.		0.018REF.	
b	0.270	0.370	0.011	0.015
b1	0.100	0.200	0.004	0.008
e	0.635REF.		0.025REF.	
e1	0.300	0.400	0.012	0.016
L	0.200	0.300	0.008	0.012
L1	0.050REF.		0.002REF.	
L2	0.270	0.370	0.011	0.015

DFN1006-3L Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.050mm.
3.The pad layout is for reference purposes only.