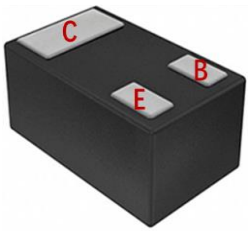
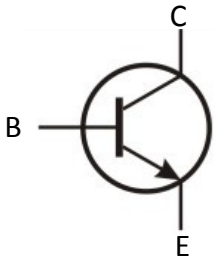
TKMMBT3904N Transistor(NPN)

DFN1006-3L



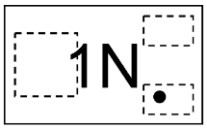
Schematic diagram



Feature

- Switching Transistor
- Collector-emitter voltage V_{CE}=40V
- Collector current I_C=0.2A

Marking: 1N



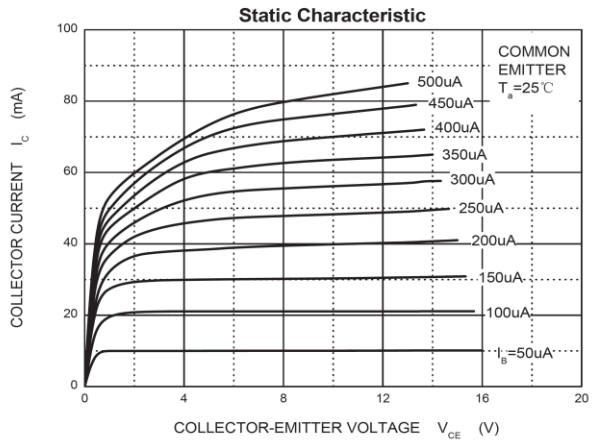
MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

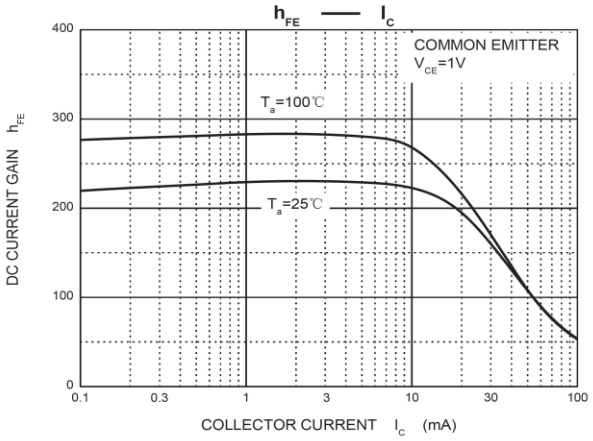
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current -Continuous	I_C	0.2	A
Power Dissipation	P_d	0.1	W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

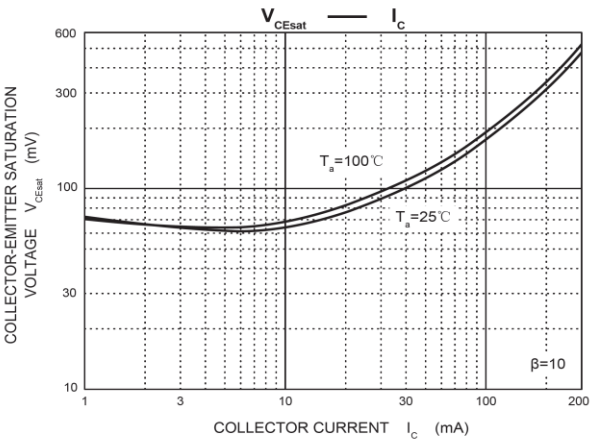
ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise noted)

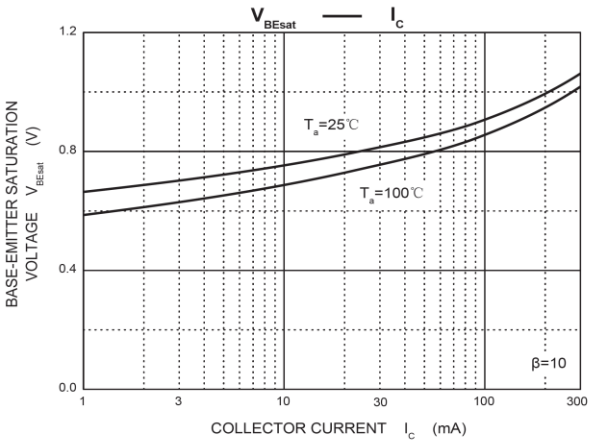
Parameter	Symbol	Test Condition	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=10μA ,I_E=0	60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA , I_B=0	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10μA,I_C=0	6		V
Collector cut-off current	I_{CBO}	V_{CB}=60V, I_E=0		100	nA
Collector cut-off current	I_{CEX}	V_{CE}=30V, $V_{EB(off)}$=3V		50	nA
Baes cut-off current	I_{BEX}			50	nA
Emitter cut-off current	I_{EBO}	V_{EB}=5V, I_C=0		100	nA
DC current gain	h_{FE1}	V_{CE}=1V, I_C=0.1mA	40		
	h_{FE2}	V_{CE}=1V, I_C=1mA	70		
	h_{FE3}	V_{CE}=1V, I_C=10mA	100	300	
	h_{FE4}	V_{CE}=1V, I_C=50mA	60		
	h_{FE5}	V_{CE}=1V, I_C=100mA	30		
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=50mA, I_B=0mA		0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=50mA, I_B=0mA		0.95	V
Transition frequency	f_T	V_{CE}= 20V, I_C=10mA,f=100MHz	300		MHZ
Delay Time	td	VCC =3V, IC = 10mA,		35	ns
Rise Time	tr	VBE(off) =-0.5V, IB1=1mA		35	ns
Storage Time	ts	VCC =3V, IC =10mA,		200	ns
Fall Time	tf	IB1 = IB2 =1mA		50	ns

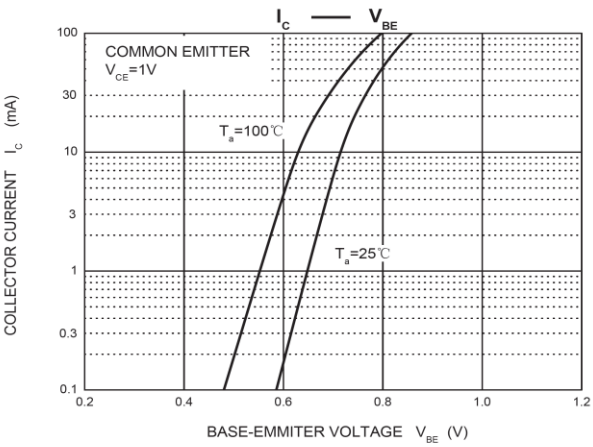
Typical Characteristics

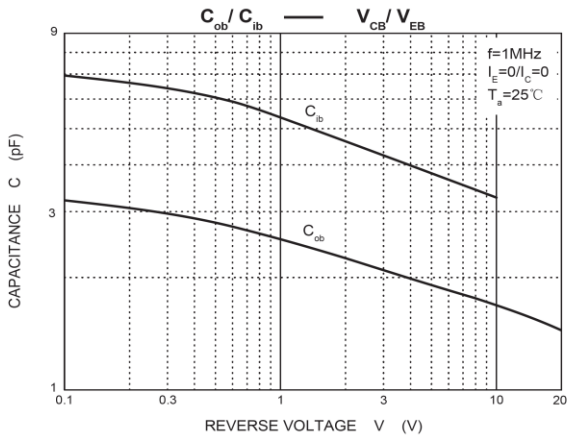


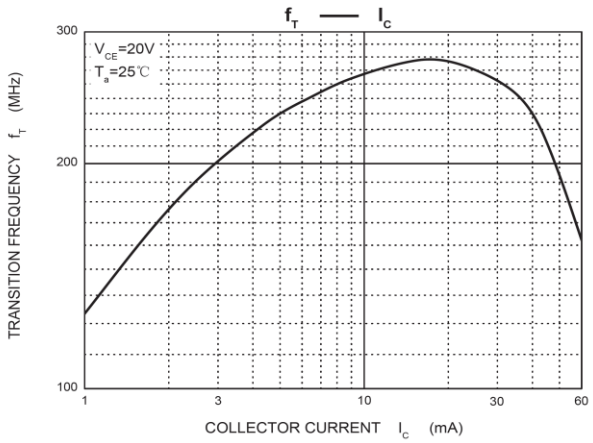


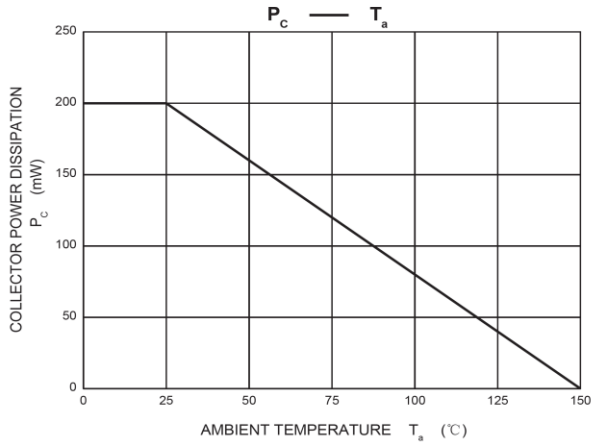


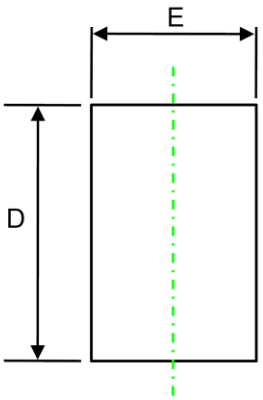




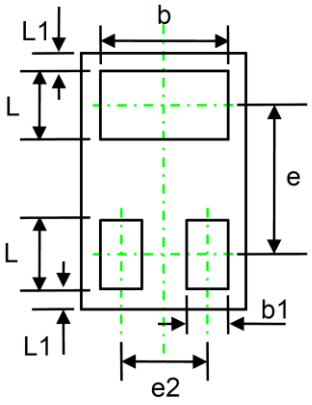




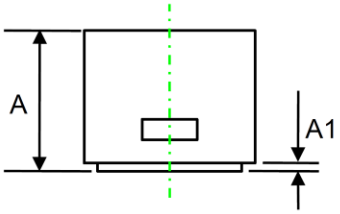




TOP VIEW
［顶视图］



BOTTOM VIEW
［底视图］



SIDE VIEW
［侧视图］

	Dimensions In Millimeters		
	Min.	Typ.	Max.
A	0.43	0.45	0.47
D	0.95	1.00	1.05
E	0.55	0.60	0.65
b	0.45	0.50	0.55
e	-	0.65	-
e2	-	0.35	-
L	0.20	0.25	0.30
L1	0.05 REF.		
b1	0.10	0.15	0.20