

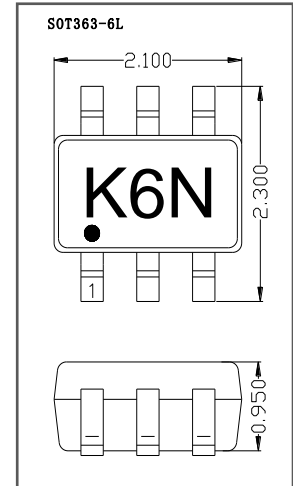
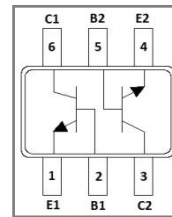
DATA SHEET

MMDT3904

- ◇Epoxy meets UL 94 V-0 flammability rating
- ◇Lead Free Finish/RoHS Compliant
- ◇For Switching and AF Amplifier Applications
- ◇Rugged and reliable

Device Marking Code	
MMDT3904	K6N

Equivalent Circuit



MAXIMUM RATINGS (Ta = 25 °C)

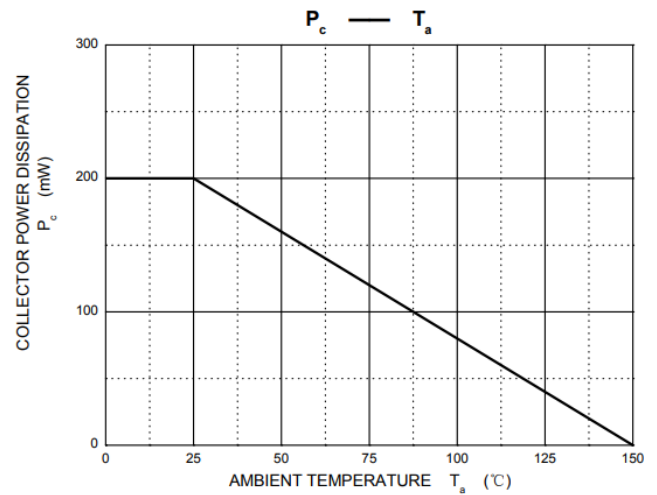
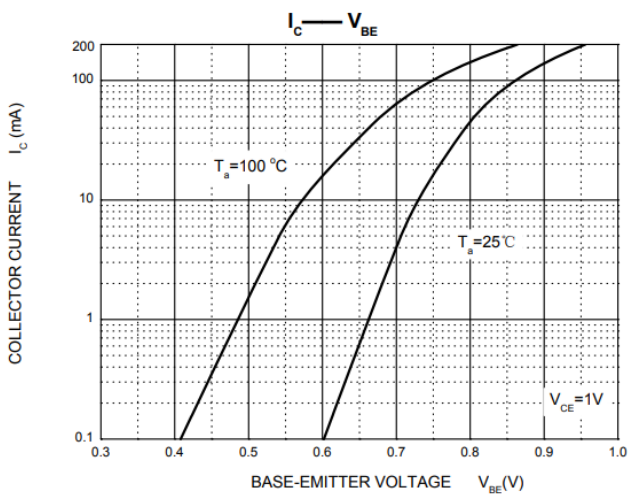
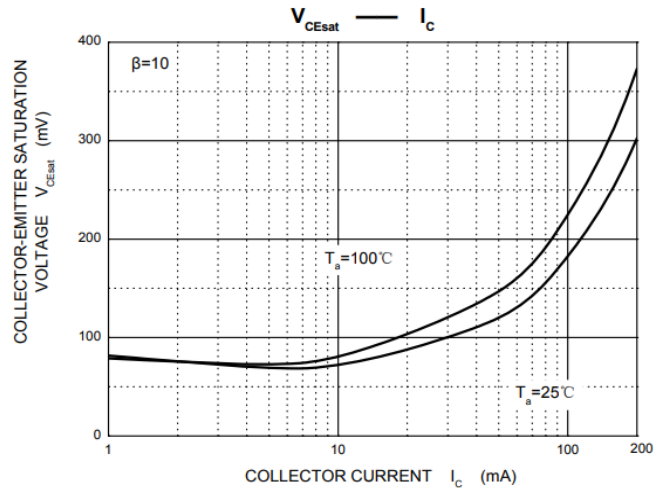
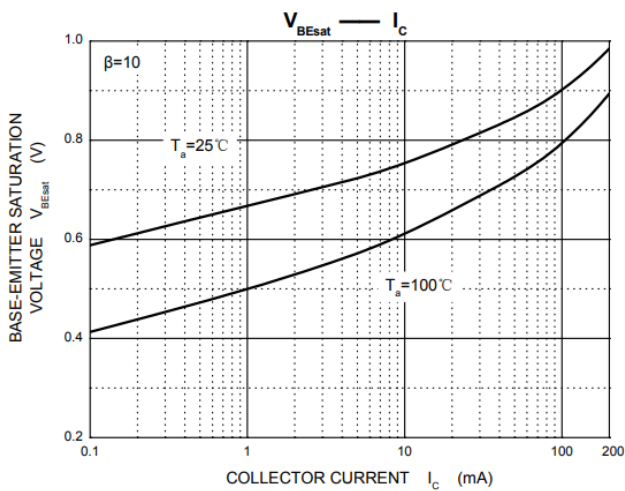
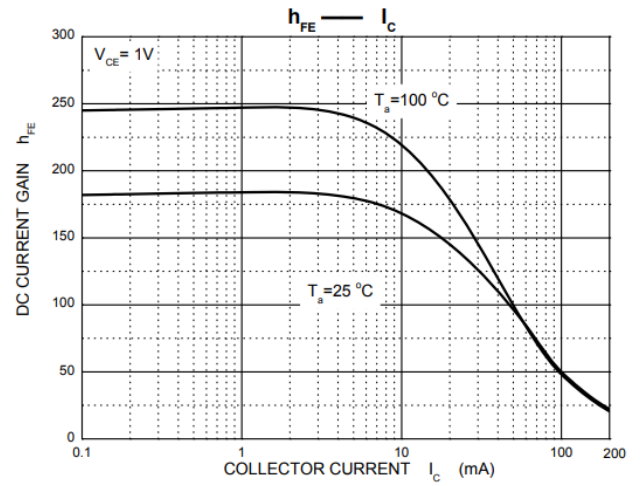
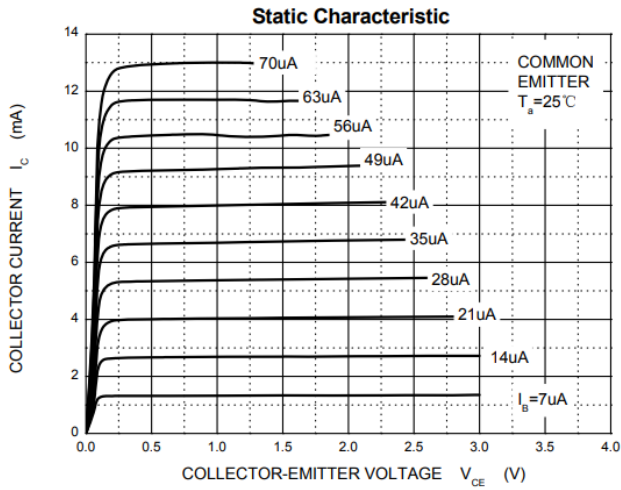
Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	5	V
P_C	Collector Power Dissipation	200	mW
I_C	Collector Current	200	mA
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 to 150	°C

ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=10\mu A, I_E=0$	60			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=1mA, I_B=0$	40			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=10\mu A, I_C=0$	5			V
I_{CBO}	Collector cut-off current	$V_{CB}=30V, I_E=0$			50	nA
I_{EBO}	Emitter-Base Cutoff Current	$V_{EB}=5V, I_C=0$			50	nA
I_{CEX}	Collector cut-off current	$V_{CE}=30V, V_{BE(off)}=3V$			50	nA
h_{FE}	DC current gain*	$V_{CE}=1V, I_C=0.1mA$	40			
		$V_{CE}=1V, I_C=1mA$	70			
		$V_{CE}=1V, I_C=10mA$	100		300	
		$V_{CE}=1V, I_C=50mA$	60			
		$V_{CE}=1V, I_C=100mA$	30			
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C=10mA, I_B=1mA$			0.2	V
		$I_C=50mA, I_B=5mA$			0.3	V

$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C=10mA, I_B=1mA$	0.65		0.85	V
		$I_C=50mA, I_B=5mA$			0.95	
f_T	Transition frequency	$V_{CE}=20V, I_C=10mA$ $f=100MHz$	300			MHZ
Cob	Collector output capacitance	$V_{CB}=5V, I_E=0$ $f=1MHz$			4	pF
NF	Noise figure	$V_{CE}=5V, I_C=0.1mA$ $f=1kHz, R_S=1K\Omega$			5	dB
t_d	Delay time	$V_{CC}=3V, V_{BE(off)}=-0.5V$ $I_C=10mA, I_{B1}=-I_{B2}=1mA$			35	nS
t_r	Rise time				35	nS
t_s	Storage time	$V_{CC}=3V, I_C=10mA$ $I_{B1}=-I_{B2}=1mA$			200	nS
t_f	Fall time				50	nS

TYPICAL CHARACTERISTICS



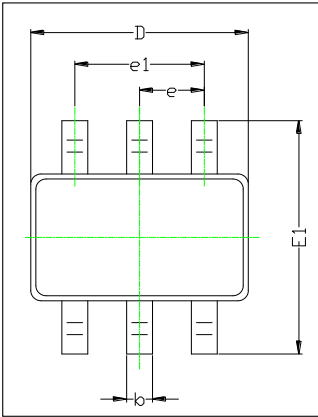
ORDERING INFORMATION

Device	Package	Shipping	Tape wide	Emboss pitch	Tape specification	Notes
MMDT3904	SOT363-6L	Tape & Reel 3000pcs /7" Reel	8mm	4mm	Conductive	

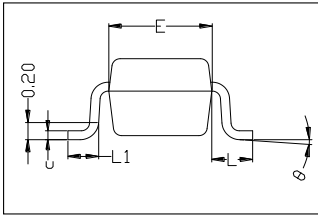
PACKAGE DIMENSIONS

Package outline : SOT363-6L

TOP VIEW

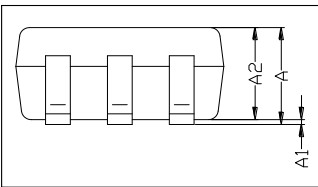


SIDE VIEW

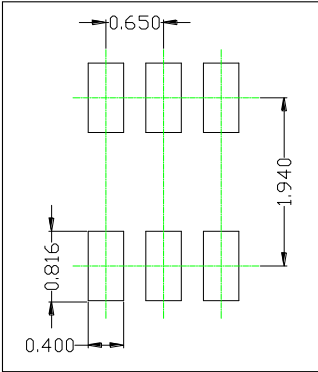


SYMBOL	DIMENSIONS IN MILLIMETER	
	MIN	MAX
A	0.900	1.000
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.350
c	0.100	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.400
e	0.650 TYP.	
e1	1.200	1.400
L	0.525 REF.	
L1	0.260	0.460
theta	0°	8°

FRONT VIEW



SOLDERING PATTERN



Notice:

- Lead plating: Pb free solder
- Lead thickness includes solder plating
- Lead frame: CAC-5
- Other Tolerance: ±0.05
- Dimensions are exclusive of Burrs, Mold Flash and Tie Bar extrusions
- Unit: mm

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