EMB-852T

Compact Board. Intel Celeron(R) Processor 600 MHz (100x6.0)

Thermal Image Analysis Report

Report No: 05E080017

Release Date: MAY 5, 2005

2005/05/05	Wenyuan Yang	Ryan Cheng
Issue Stamp	Manager	Test Engineer

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056

Thermal Image Analysis

Ⅰ. Model Name :EMB-852T-A03

Ⅱ. Description: EMB-852T.Rev.A0.3.W/600MHZ CPU.CFD.TOUCH
(BIOS Rev: 1.0 (03/24/2005))

Ⅲ. Date: May 05, 2005

Ⅳ. Measure Site: AAEON QE Dept.

Ⅴ. Issued by : Ryan Cheng

Ⅵ.Equipment:

1. TVS-100 series by NIPPON AVIONICS CO., LTD.

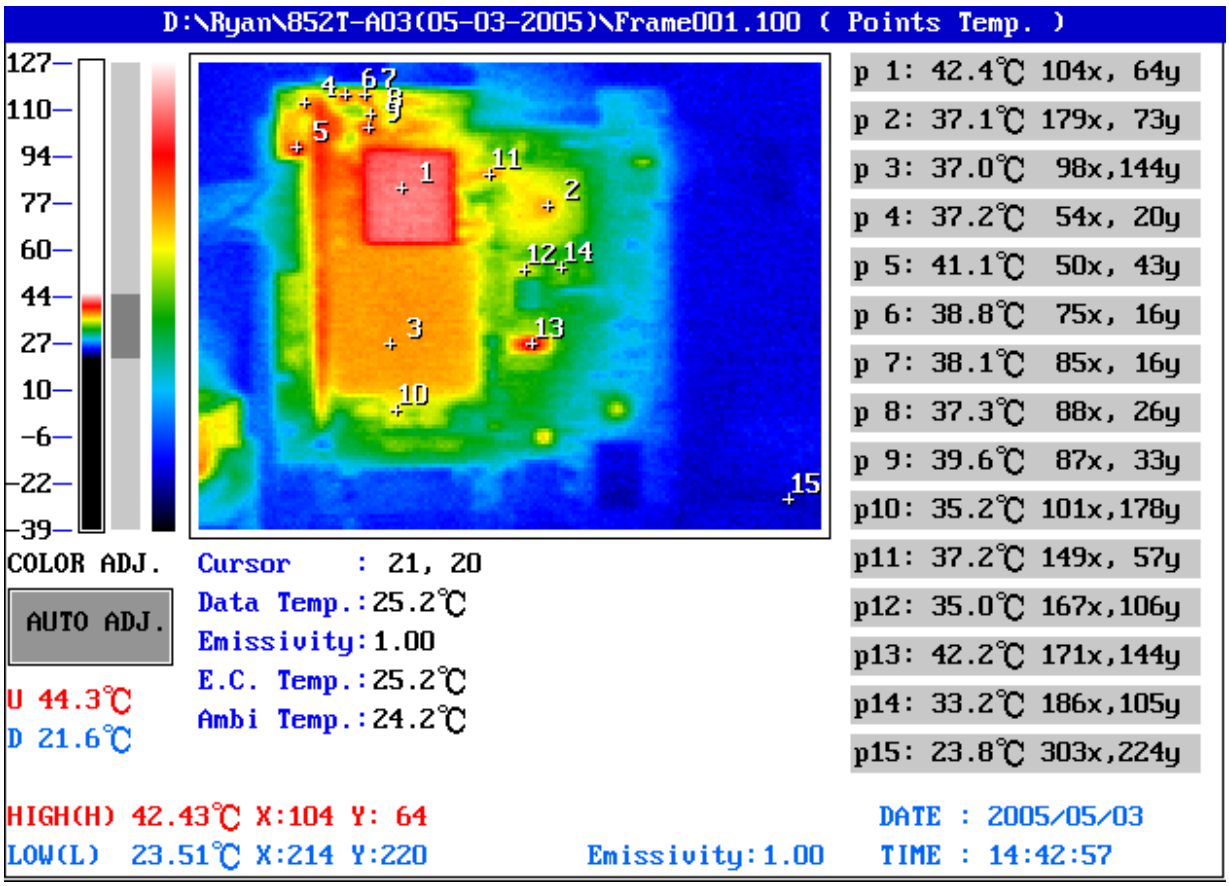
Ⅶ. Simulation Environment:

- Temperature: Component Side (1)： 23.8 ℃
  Component Side (2)： 23.8 ℃
  Solder Side (1) ： 24.2 ℃
  Solder Side (2) ： 24.2 ℃
- CPU: On Board CPU Intel Celeron(R) Processor 600 MHz (100x6.0)
- RAM: SAMSUNG / K4H560438E-GCCC / DDR400 / 1024MB / RR-200402
- Application Software: Run HCT (9.5)System Stress Test under Win2000 Professional+SP4
- Take Picture Time: After Power on 2 hours.

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056

Temperature Profile Test:

Component Side (1) :



Point	Position	Describe	Tc	Tm (25℃)	Tm (60℃)	Note
1	U24	IC.SMD.BGA732.Chipset.NB82852GM.Intel.RG82852GM-SL6ZK	0~105℃	42.4℃	78.6℃	
2	U25	IC.SMD.Chipset ICH4.INTEL.FW82801DB SL6DM	0~110℃	37.1℃	73.3℃	
3	U23	INTEL CPU.Celeron-M.ULV 600MHz.Zero Cache.mFCBGA479	0~100℃	37.0℃	73.2℃	
4	TC28	KO-CAP.150uF.6.3V.20%.V(7.3*4.3*1.9mm).45mOhm SMD.KEMET.T520V157M006ASE045	N/A	37.2℃	73.4℃	
5	U13	REG.SMD SOP-8.2A Bus Termination Regulator.Winbond.W83310S-R2	-30~100℃	41.1℃	77.3℃	
6	U10	PWR.SMD.SO-8.N-Channel.30V.10A.13.5mΩ.MOSFET.APEC.AP4410M	-30~125℃	38.8℃	75℃	
7	U54	IC.SMD SO8.ACPI Power Controller.Intersil.ISL6506BCB	-30~100℃	38.1℃	74.3℃	
8	Q46	PWR.SMD.TO-252.N-Channel Power 25V 60A MOSFET.APEC.AP70T03H	-30~150℃	37.3℃	73.5℃	
9	U11	IC.SMD.SO8.Step-Down DC/DC Controller.Anpec.APW7057	-30~100℃	39.6℃	75.8℃	
10	L5	COIL.0.8uH.SMD.12.5*12.5*5.6mm.DCR=2.5mohm Idc=27.2Amp. 震元.CEP125U-0R8	-30~125℃	35.2℃	71.4	
11	U15	IC.SMD TSSOP-28.Dual Power Supply Controller.SEMTECH.SC1485ITSTR	-15~100℃	37.2℃	73.4℃	
12	U34	IC.SMD.QFP128P Super I/O.ITE.IT8712F/HX	-30~100℃	35.0℃	71.2℃	
13	U22	IC.SMD.SSOP 56PIN.CLOCK GENERATOR.ICS.ICS952601	115℃	42.2℃	78.4℃	
14	U57	(TF)IC.SMD SSOP 28P.RS232 Driver ESD 15KV.INTERSIL.HIN213ECAZ	0~70℃	33.2℃	69.4℃	
15		Ambient Temperature		23.8℃		

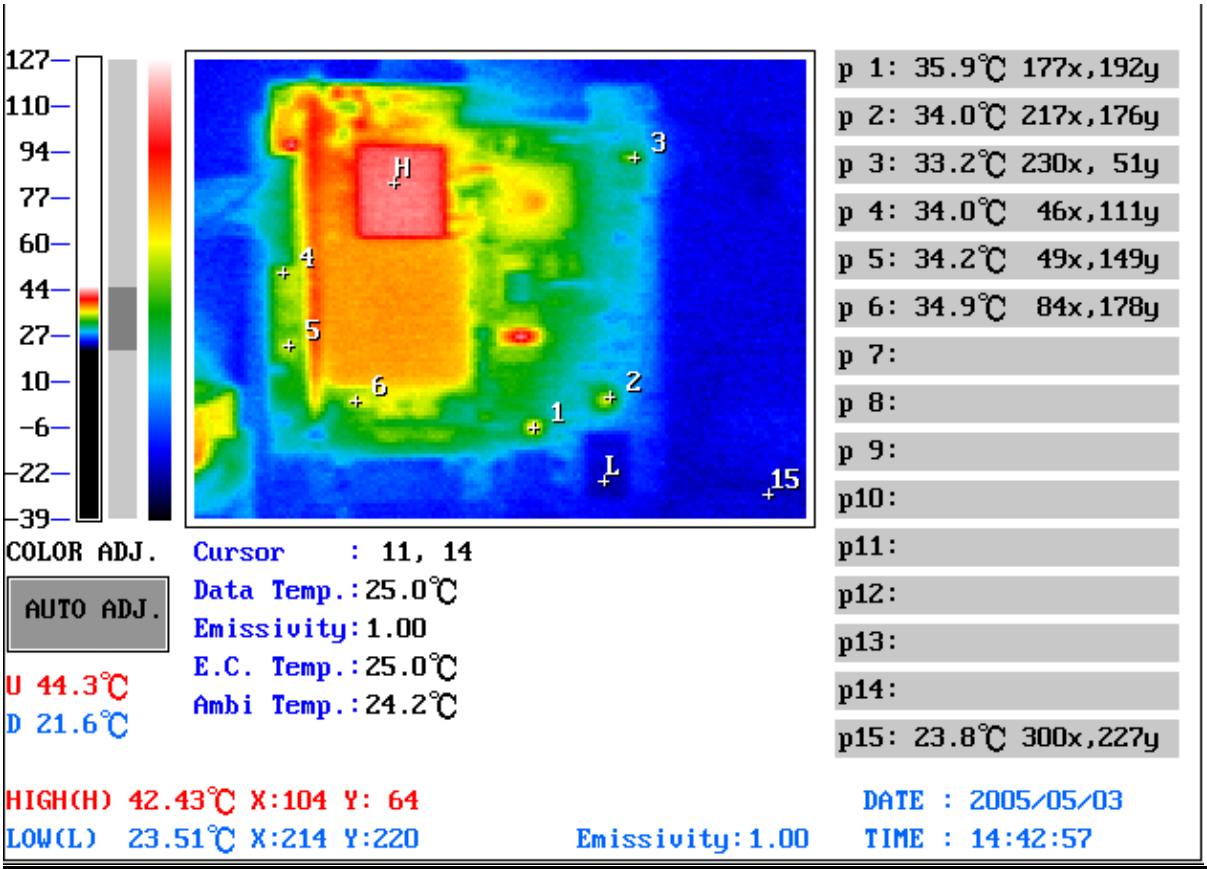
1. Operation Temperature (℃):
   Tc(Case temp.) = Ta(Ambient Temp.)+/-30℃ = Tj(Junction Temp.)-/+25℃

Note: The description in red states which temperature is over the specification of the device.

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056

Temperature Profile Test:

Component Side (2) :



Point	Position	Describe	Tc	Tm (25℃)	Tm (60℃)	Note
1	U49	IC.SMD LQFP 48Pin.6 Channel AC'97 Audio Codec.REALTEK.ALC655	-30~100℃	35.9℃	72.1℃	
2	U28	IC.SMD.BGA 196P Ethernet Chipset.Intel.82562EZ	0~135℃	34.0℃	70.2℃	
3	U3	IC.SMD.SOIC 14P.TI.SN7406	-30~100℃	33.2℃	69.4℃	
4	M2	PWR.SMD.SOP 8P.N & P-Channel Power MOSFET.APEC.AP4500M	-30~125℃	34.0℃	70.2℃	
5	U60	IC.SMD.TQFP.32P.Touch Screen Controller.[illegible]光.DMC9000.Firmwa:E2.1(ATmega8)	-70~115℃	34.2℃	70.4℃	
6	U21	IC.SMD TSSOP-38 IMVP4.Dual Phase PWM Controller.SEMTECH.SC1476	-30~115℃	34.9℃	71.1℃	
7						
8						
9						
10						
11						
12						
13						
14						
15		Ambient Temperature		23.8℃		

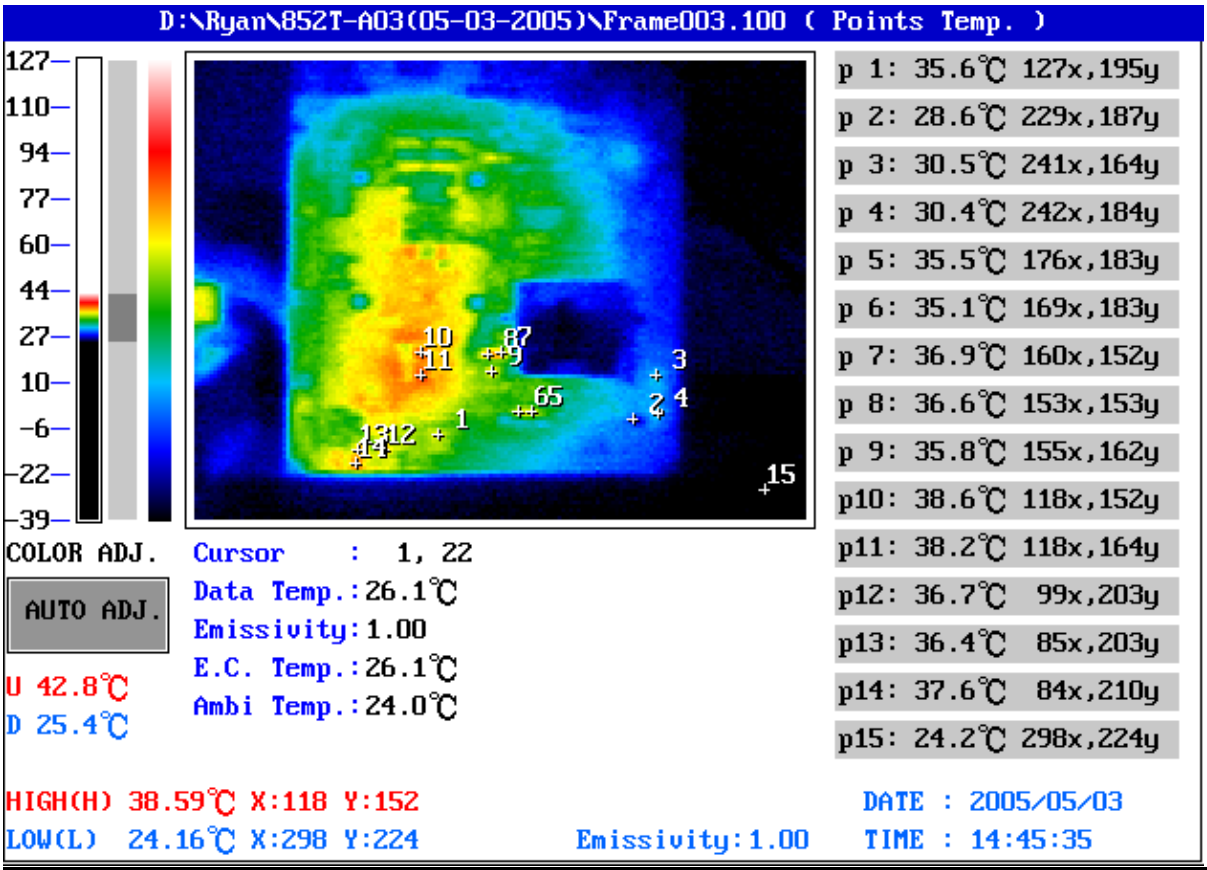
1. Operation Temperature (℃):
   Tc(Case temp.) = Ta(Ambient Temp.)+/-30℃ = Tj(Junction Temp.)-/+25℃

Note: The description in red states which temperature is over the specification of the device.

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056

Temperature Profile Test:

Solder Side (1) :



Point	Position	Describe	Tc	Tm (25℃)	Tm (60℃)	Note
1	U31	IC.SMD LQFP.64P DVI/TV ENCODER.CHRONTEL.CH7009A	-80~115℃	35.6℃	71.4℃	
2	U43	IC.SMD.LQFP.48P.LPC to 4 UART.FINTEK.F81216D	-30~100℃	28.6℃	64.4℃	
3	U45	(TF)IC.SMD SSOP 28P.RS232 Driver ESD 15KV.INTERSIL.HIN213ECAZ	0~70℃	30.5℃	66.3℃	
4	U44	(TF)IC.SMD SSOP 28P.RS232 Driver ESD 15KV.INTERSIL.HIN213ECAZ	0~70℃	30.4℃	66.2℃	
5	U14	Dual N-Channel.SMD SO-8.2.5V MOSFET.APEC.AP9926M	-30~125℃	35.5℃	71.3℃	
6	U18	PWR.SMD SO8.N-Channel MOSFET 30V 15A.FAIRCHILD.FDS7760A	-30~125℃	35.1℃	70.9℃	
7	U16	Dual N-Channel.SMD SO-8.2.5V MOSFET.APEC.AP9926M	-30~125℃	36.9℃	72.7℃	
8	U17	PWR.SMD SO8.N-Channel MOSFET 30V 15A.FAIRCHILD.FDS7760A	-30~125℃	36.6℃	72.4℃	
9	TC11	SP CAP.220uF.2V.-35~+10%.D(7.3*4.3*1.9mm).9mOhm SMD.Panasonic.EEFSX0D221YR	-40~105℃	35.8℃	71.6℃	
10	TC25	SP CAP.220uF.2V.-35~+10%.D(7.3*4.3*1.9mm).9mOhm SMD.Panasonic.EEFSX0D221YR	-40~105℃	38.6℃	74.4℃	
11	TC27	SP CAP.150uF.6.3V.20%.D(7.3*4.3*2.8mm).18mOhm SMD.Panasonic.ECGUD0J151R	-40~105℃	38.2℃	74℃	
12	U55	PWR.SMD SO-8.P-Channel 30V MOSFET.APEC.AP4435M	-30~125℃	36.7℃	72.5℃	
13	TC7	KO-CAP.330uF.6.3V.20%.D(7.3*4.3*2.8mm).45mOhm SMD.KEMET.T520D337M006AS	N/A	36.4℃	72.2℃	
14	U12	PWR.SMD.SO-8.N-Channel.30V.10A.13.5mΩ.MOSFET.APEC.AP4410M	-30~125℃	37.6℃	73.4℃	
15		Ambient Temperature		24.2℃		

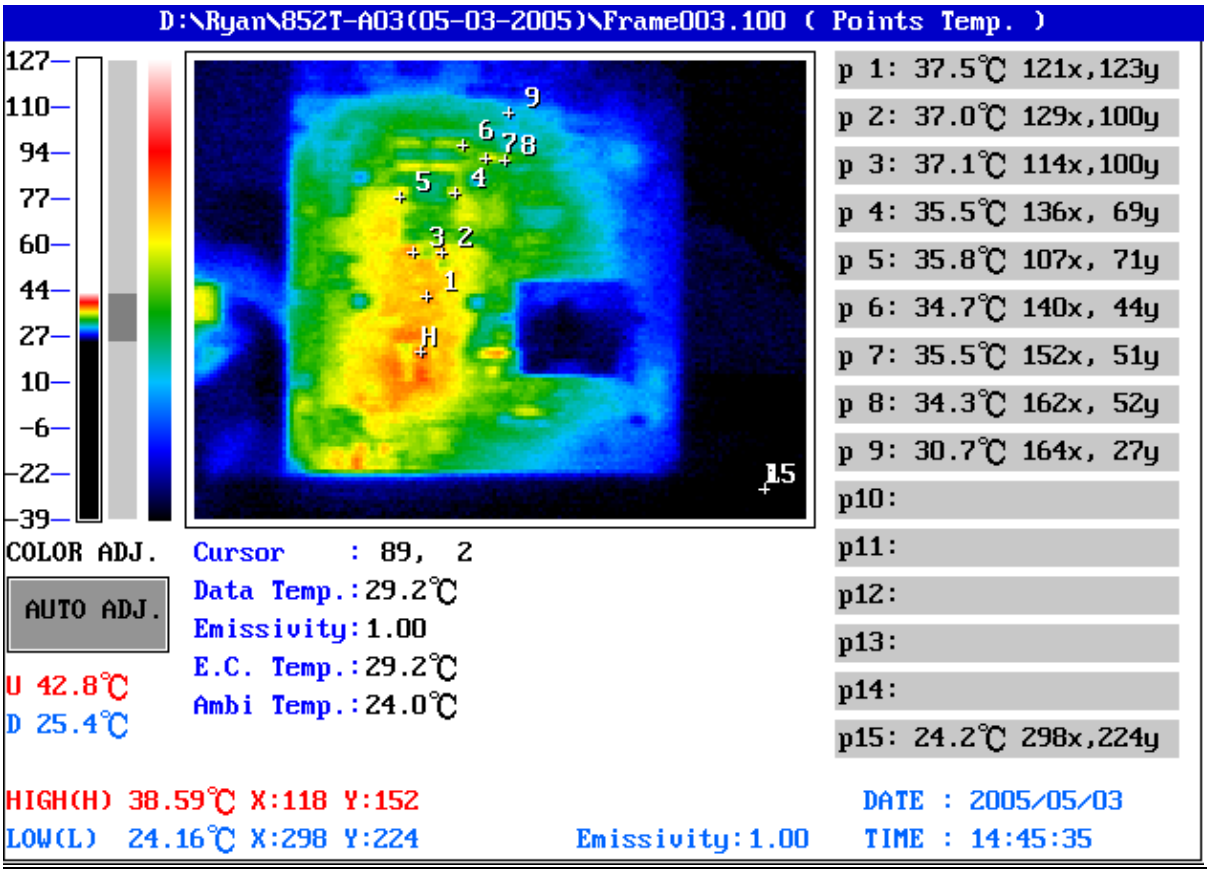
1. Operation Temperature (℃):
   Tc(Case temp.) = Ta(Ambient Temp.)+/-30℃ = Tj(Junction Temp.)-/+25℃

Note: The description in red states which temperature is over the specification of the device.

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056

Temperature Profile Test:

Solder Side (2) :



Point	Position	Describe	Tc	Tm (25℃)	Tm (60℃)	Note
1	TC24	SP CAP.220uF.2V.-35~+10%.D(7.3*4.3*1.9mm).9mOhm SMD.Panasonic.EEFSX0D221YR	-40~105℃	37.5℃	73.3℃	
2	TC21	SP CAP.220uF.2V.-35~+10%.D(7.3*4.3*1.9mm).9mOhm SMD.Panasonic.EEFSX0D221YR	-40~105℃	37.0℃	72.8℃	
3	TC20	SP CAP.220uF.2V.-35~+10%.D(7.3*4.3*1.9mm).9mOhm SMD.Panasonic.EEFSX0D221YR	-40~105℃	37.1℃	72.9℃	
4	TC23	SP CAP.220uF.2V.-35~+10%.D(7.3*4.3*1.9mm).9mOhm SMD.Panasonic.EEFSX0D221YR	-40~105℃	35.5℃	71.3℃	
5	TC22	SP CAP.220uF.2V.-35~+10%.D(7.3*4.3*1.9mm).9mOhm SMD.Panasonic.EEFSX0D221YR	-40~105℃	35.8℃	71.6℃	
6	TC18	SP CAP.150uF.6.3V.20%.D(7.3*4.3*2.8mm).18mOhm SMD.Panasonic.ECGUD0J151R	-40~105℃	34.7℃	70.5℃	
7	U7	(TF)IC.SMD SOP.8Pin Switching PWM Controller.IR.IRU3037CSPbF	25~100℃	35.5℃	71.3℃	
8	U53	Dual N-Channel.SMD SO-8.2.5V MOSFET.APEC.AP9926M	-30~125℃	34.3℃	70.1℃	
9	TC33	SP CAP.150uF.6.3V.20%.D(7.3*4.3*2.8mm).18mOhm SMD.Panasonic.ECGUD0J151R	-40~105℃	30.7℃	66.5℃	
10						
11						
12						
13						
14						
15		Ambient Temperature		24.2℃		

1. Operation Temperature (℃):
   Tc(Case temp.) = Ta(Ambient Temp.)+/-30℃ = Tj(Junction Temp.)-/+25℃

Note: The description in red states which temperature is over the specification of the device.

AAEON Technology Inc.
5F, No.135, Lane 235, Pao Chiao Rd.,
Hsin-Tien City, Taipei, Taiwan, R.O.C.
TEL: +886-2-8919-1234
FAX: +886-2-8919-1056