APPROVE SHEET

Customer : _____

Customer Part Number : E1A SERIES

Grande Part Number : E1A SERIES

Issue Date : 2/22/2017

Approver Signature :	

APPROVED BY : LuoYaCheng PREPARED BY : LiuZhaowei

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E1A SERIES

SURFACE MOUNT GENERAL PURPOSE RECTIFIER

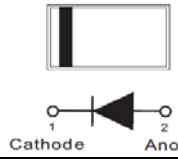
VOLTAGE 50 to 1000 Volt CURRENT 1 Ampere

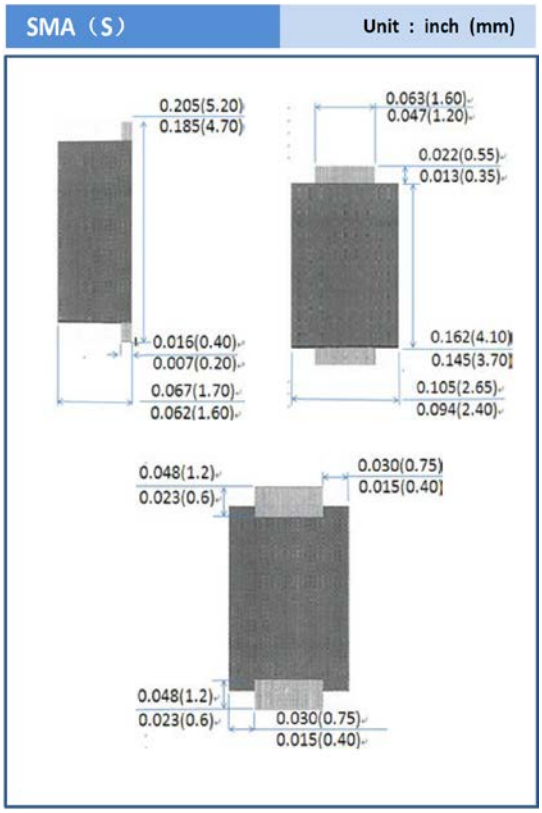
FEATURES

- For surface mounted applications in order to optimize board space
- Easy pick and place
- Superfast recovery times for high efficiency
- Plastic package has Underwriters laboratory Flammability Classification 94V-O
- Glass passivated Junction
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

- Case: SMA(S) molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026
- Polarity: Indicated by cathode band
- Standard packaging: 12 mm tape (EIA-481)
- Weight: 0.0013 ounces, 0.0433 grams





MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.For capacitive load, derate current by 20%.

PARAMETER	SYMBOL	E1A	E1B	E1C	E1D	E1E	E1G	E1J	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	V
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	V
Maximum Average Forward Current	$I_{F(AV)}$	1							A
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	30							A
Maximum Forward Voltage at 1A	V_F	0.95				1.25		1.7	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	1							μA
Typical Junction Capacitance	C_J	18							PF
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	120							℃/W
(Note 2)	$R_{\theta JL}$	20							
Maximum Reverse Recovery Time (Note 3)	t_{rr}	35							ns
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150							℃

NOTES : 1. Mounted on an FR4 PCB, single-sided copper, mini pad.

2. Mounted on an FR4 PCB, single-sided copper, with 76.2 x 114.3mm copper pad area.

3. Reverse Recovery Test Conditions: I_F=0.5A, I_R=-1A, Irr=0.25A.

E1A SERIES

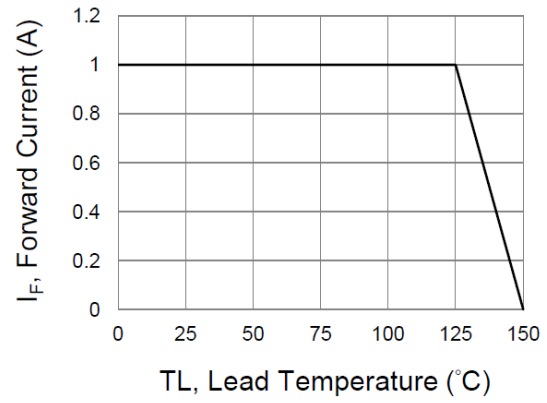


Fig.1 Forward Current Derating Curve

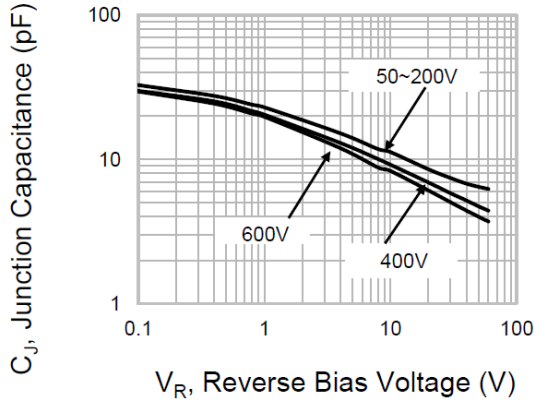


Fig.2 Typical Junction Capacitance

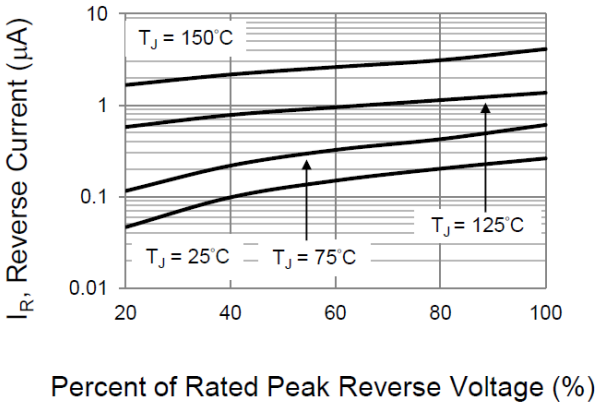


Fig.3 Typical Reverse Characteristics

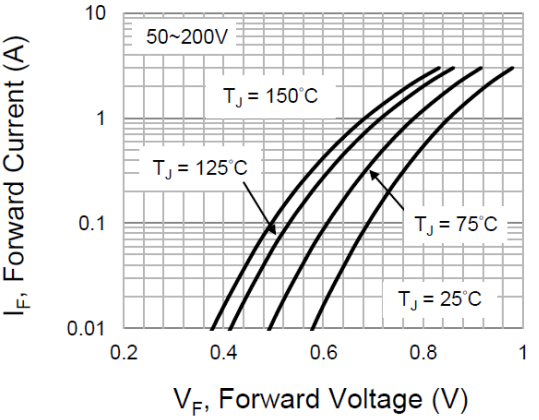


Fig.4 Typical Forward Characteristics

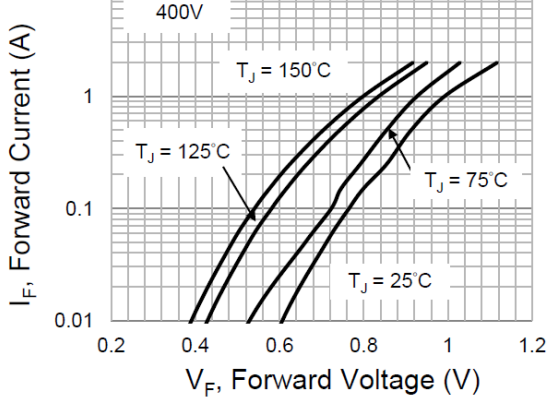


Fig.5 Typical Forward Characteristics

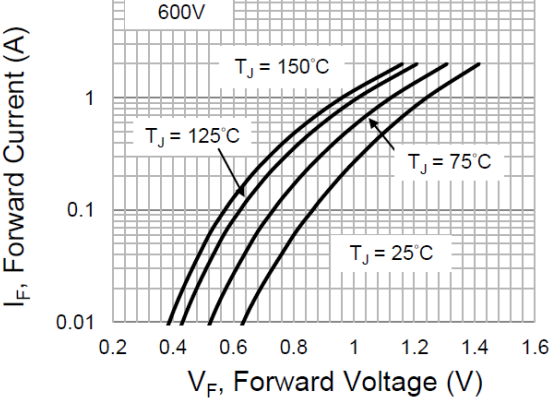
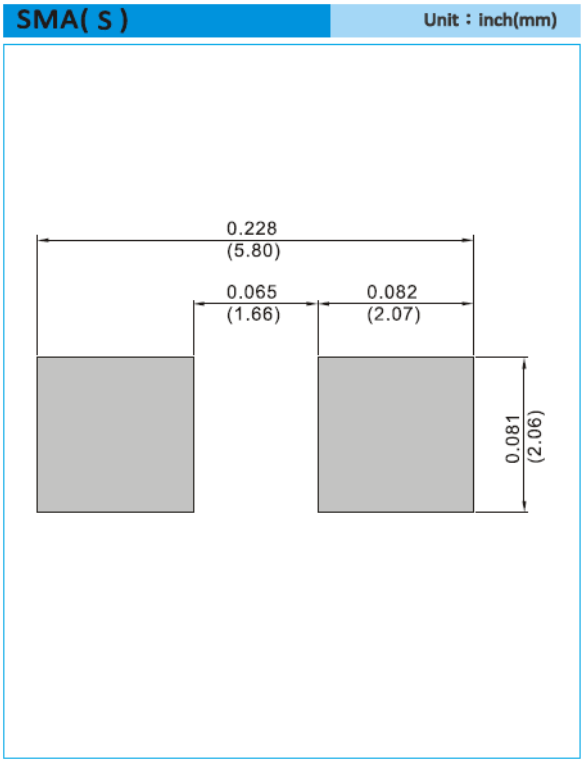


Fig.6 Typical Forward Characteristics

E1A SERIES

MOUNTING PAD LAYOUT



ORDER INFORMATION

. Packing information

T/R – 9.5K per 13" plastic Reel

T/R – 2.3K per 7" plastic Reel

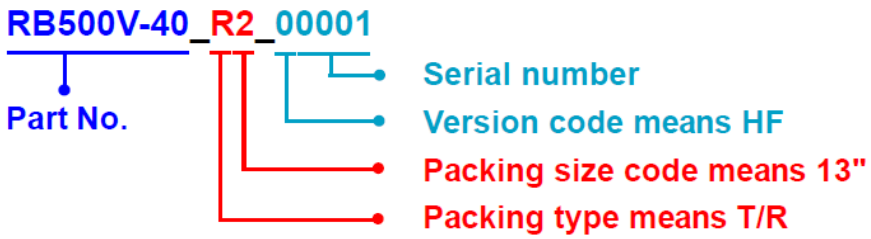
E1A SERIES

Part No_packing code_Version

E1A_R1_00001

E1A_R2_00001

For example :



Packing Code XX				Version Code XXXXX		
Packing type	1st Code	Packing size code	2nd Code	HF or RoHS	1st Code	2nd~5th Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			

E1A SERIES

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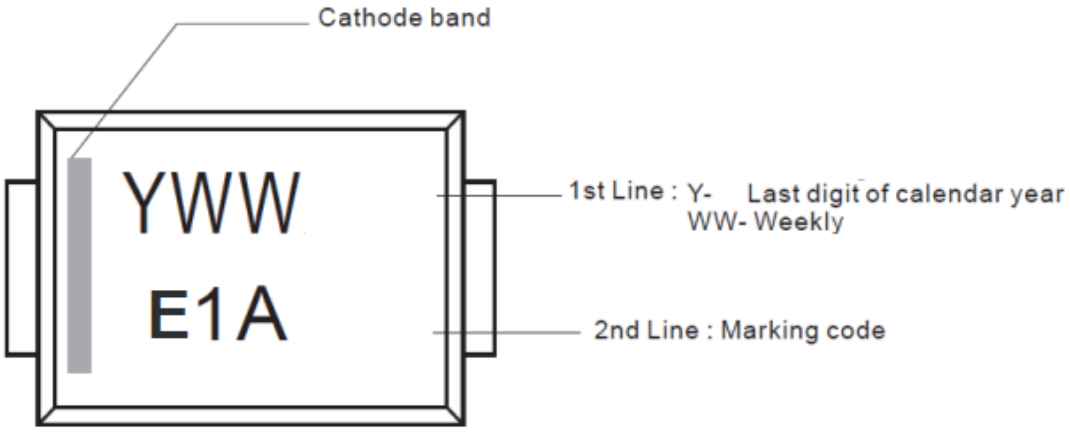
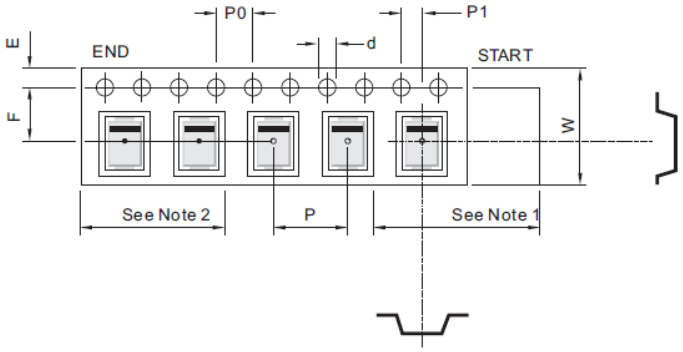
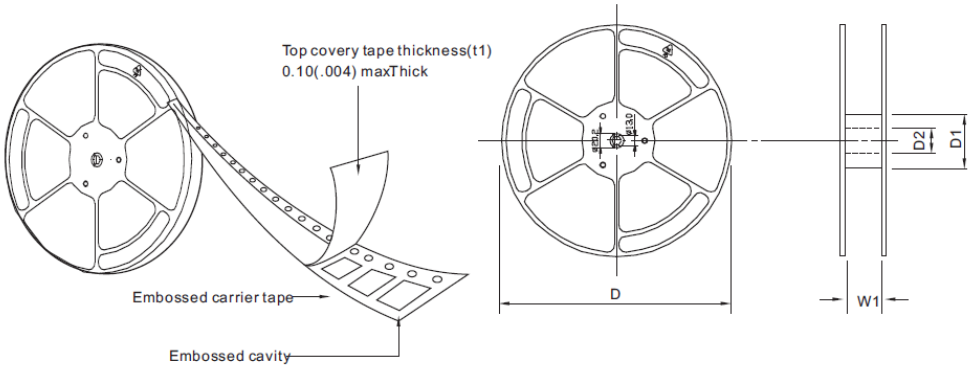
2.MARKING


Cathode band
YWW
E1A
1st Line : Y- Last digit of calendar year
WW- Weekly
2nd Line : Marking code

3. TAPING





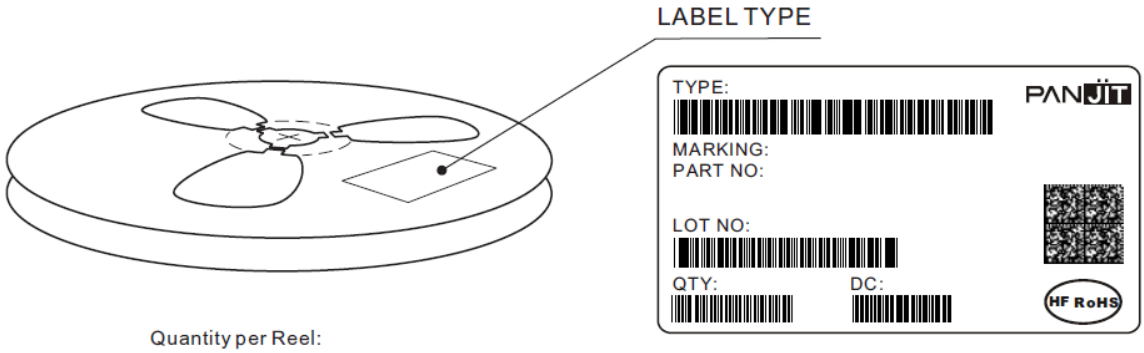
SYMBOL	mm(inch)	SYMBOL	mm(inch)	SYMBOL	mm(inch)
TYPE SIZE	12.00 (0.472)	TYPE SIZE	12.00 (0.472)	TYPE SIZE	16.00 (0.629)
Package	SMA/SMA(W)./SMA(S)	Package	SMB	Package	SMC
d	1.55 ±0.05 (0.06 ±0.001)	d	1.55 ± 0.05 (0.06 ± 0.001)	d	1.55 ± 0.05 (0.06 ± 0.001)
D	178.0 ± 2.0 (7.0 ± 0.078)	D	178.0 ± 2.0 (13.0 ± 0.078)	D	178.0 ± 2.0 (13.0 ± 0.078)
D1	50.0 min (1.97 min)	D1	50.0 min (1.97 min)	D1	50.0 min (1.97 min)
D2	13.0 ± 0.2 (0.51 ± 0.007)	D2	13.0 ± 0.2 (0.51 ± 0.007)	D2	13.0 ± 0.5 (0.51 ± 0.019)
E	1.75 ± 0.10 (0.068 ± 0.003)	E	1.75 ± 0.10 (0.068 ± 0.003)	E	1.75 ± 0.10 (0.068 ± 0.003)
F	5.50 ± 0.1 (0.21 ± 0.003)	F	5.50 ± 0.05 (0.21 ± 0.001)	F	7.5 ± 0.10 (0.29 ± 0.003)
P	4.00 ± 0.10 (0.15 ± 0.003)	P	8.00 ± 0.10 (0.31 ± 0.003)	P	8.00 ± 0.10 (0.31 ± 0.003)
Po	4.00 ± 0.10 (0.15 ± 0.003)	Po	4.00 ± 0.10 (0.15 ± 0.003)	Po	4.00 ± 0.10 (0.15 ± 0.003)
P1	2.00 ± 0.1 (0.07 ± 0.003)	P1	2.00 ± 0.05 (0.07 ± 0.001)	P1	2.00 ± 0.10 (0.07 ± 0.003)
W	12.00 ± 0.3 (0.472 ± 0.118)	W	12.00 ± 0.3 (0.472 ± 0.118)	W	16.00 ± 0.3 (0.472 ± 0.118)
W1	12.40 ~ 14.40Maxmum (0.48 ~ 0.56)	W1	12.40 ~ 14.40Maxmum (0.48 ~ 0.56)	W1	16.40 ~ 18.40Maxmum (0.64 ~ 0.72)

Note:

1. There shall be leader of 230 mm minimum which may consist of carrier and or cover tape follower by a minimum of 160 mm of carrier tape sealed with cover tape.
2. There shall be minimum of 160 mm of empty component pockets sealed with cover tape.
3. Devices are packed in accordance whit EIA standard EIA-481-A and specifications given above.

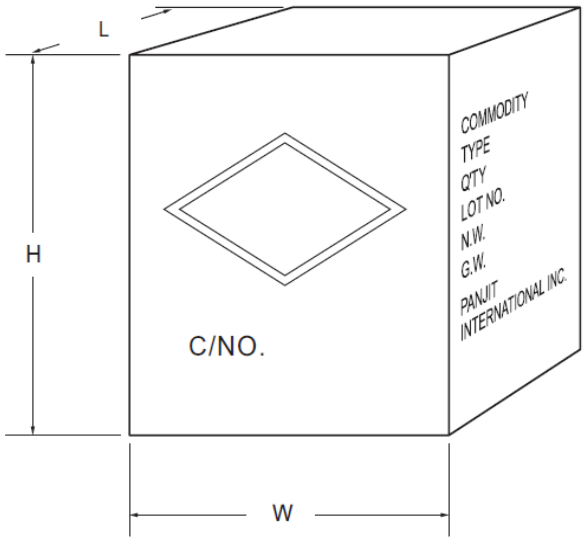
4. PACKAGE

REELPACKING



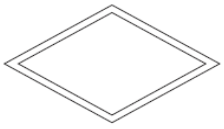
Quantity per Reel:

CARTON



Box Dimensions :mm
Quantity per Box:

SHIPPING MARK



C/NO.
PRODUCT COUNTRY

SIDE MARK

COMMODITY:
TYPE:
Q'TY:
LOT NO.
N.W.
G.W.
PANJIT
INTERNATIONAL INC.

Line	Package	Packing	Size	Quantity	InnerboxsizeLxWxH(m/m)	CartonQuantity	CartonsizeLxWxH(m/m)
SMD	SMA	T/R	7"	1,800	188x188x67	10box/72K	390x240x420
	SMB	T/R		500	188x188x67	10box/20K	390x240x420
	SMC	T/R		500	188x188x67	10box/15K	390x240x420
	SMA(W)	T/R		1,800	188x188x67	8box/100.8K	390x240x420
	SMA(S)	T/R		2,300	188x188x67	8box/128.8K	390x240x420
	SMA	T/R	13"	7,500	350x337x44	8box/120K	375x360x390
	SMB	T/R		3,000	350x337x44	8box/48K	375x360x390
	SMC	T/R		3,000	350x337x44	7box/42K	375x360x390
	SMA(W)	T/R		7,500	350x337x44	10box/150K	355x355x390
	SMA(S)	T/R		9,500	350x337x44	10box/190K	355x355x400

Packing Specifications

Package	Reel Size	Reel	Component Space	Tape Space	Reel Dia	Carton Size	Carton	Approx.Gross Weight
	(inch)	(pcs)	(mm)	(mm)	(mm)	(mm)	(EA)	(kg)
Reel Packing								
SMA(S)	7	2,300	4	12	178	390 x 240 x 420	128,800	11.5
	13	9,500	4	12	330	355 x 355 x 400	190,000	16.1

5.HIGH RELIABILITY TEST SPEC

(Schottky & Switching & Rectifiers & Bridge)

Date : 2015.01.29 rev.05

NO.	TEST ITEM	TEST CONDITION	REFERENCED DOCUMENT	LOT QUALITY LEVEL
1	HIGH TEMPERATURE REVERSE BIAS (H.T.R.B)	Tj ≤ Tj max V=0.8VR (CUSTOMER SPEC.) DC supply 1000hr	JESD22-A108C	S.S=77 ACCEPT FOR 0 FAILURE ONLY.
2	INTERMITTENT FORWARD OPERATING LIFE (I.F.O.L)	$I=I_O \times 1.0$ DC supply POWER ON: at least 2 min , POWER OFF: 2min 15000cycle	MIL-STD-750E METHOD 1037.2	S.S=77 ACCEPT FOR 0 FAILURE ONLY.
3	CONTINUE FORWARD OPERATING LIFE (C.F.O.L)	Ta should be specified if other than room temp I=IO+/−10% DC supply 168hr	MIL-STD-750E METHOD 1027.3	S.S=77 ACCEPT FOR 0 FAILURE ONLY.
4	TEMPERATURE CYCLING (T.C.T)	Ta=−55 +0/−10℃ t=10min (Min.) Ta=+150 +15/−0℃ t=10min (Min.) 1000cycle	JESD22-A104D	S.S=77 ACCEPT FOR 0 FAILURE ONLY.
5	PRESSURE COOKER (PCT)	Ta=121℃ , P=29.7psia , Relative Humidity = 100%RH 96hr	JESD22-A102D	S.S=77 ACCEPT FOR 0 FAILURE ONLY.
6	THERMAL SHOCK (T.S.T)	HOT TANK Ta=100+10/−2℃ t=5min COLD TANK Ta=0+2/−10℃ t=5min 100 cycle	JESD22-A106B	S.S=77 ACCEPT FOR 0 FAILURE ONLY.
7	HIGH TEMPERATURE STORAGE LIFE (H.T.S.L)	Ta=specified max storage temperature +/−5℃ 1000hr	JESD22-A103C	S.S=77 ACCEPT FOR 0 FAILURE ONLY.
8	TEMPERATURE HUMIDITY STORAGE (T.H.S)	Ta=85+/-2℃ , RH=85+/-5% 1000hr	EIAJ ED-4701/100 METHOD 103	S.S=77 ACCEPT FOR 0 FAILURE ONLY.
9	SOLDERABILITY TEST	TEMPERATURE OF SOLDER POT=245+/−5℃ TIME FOR DIPPING IN SOLDER=5+/−0.5 SEC DIPPING DEPTH=0.05inch MAX FROM THE BODY 1 cycle	JESD22-B102D	S.S=10 ACCEPT FOR 0 FAILURE ONLY.
10	SOLDER RESISTANCE	TEMPERATURE OF SOLDER POT=260+/−5℃ TIME FOR DIPPING IN SOLDER=10+2/−0 SEC DIPPING DEPTH=1.57+/−0.79mm FROM THE BODY 1 cycle	JESD22-B106D	S.S=30 ACCEPT FOR 0 FAILURE ONLY.
11	FORWARD SURGE CURRENT	SQ WAVE OR SINE WAVE IFSM=DATE SHEET SPEC TIME=Tp	MIL-STD-750E METHOD 4066.4	S.S=22 ACCEPT FOR 0 FAILURE ONLY.