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**MIL PRF 38534 CLASS H TRAVELLER**

Customer:XXXX	Cust PO#:XXXX	Cust Spec:Man Data Sheet
LQH #:019	Bonding Diagram#: DBD044	SO:20424
Device:2N3904	Device IIL:3670	
Bond Wire:Au	Package Style:TO39	Package IIL:6821
Die Attach Type:Ag	Lid Style: TO39 CAP	Lid IIL:6821

SEQ	OPERATION/PS	CONDITIONS	QTY	ACCEPT	REJ.	DATE	SIG.	COMMENTS
1	100% Die Visual PS0001	MIL STD 883 TM 2010	15	15		30/10/23	DPB	Equipment #:1
2	Die Attach PS0002	Cure Epoxy 1Hr @150°C Oven Temp Check:152°C	15	15		30/10/23	DPB	Equipment #:8
3	Wire Bond PS 00003	Wire Type: Au Diameter: 1 Mils	15	15		31/10/23	DPB	Equipment #:7
4	Internal Visual PS0001	MIL STD 883 TM 2010	15	15		31/10/23	SE	Equipment #:1
5	Lid Seal PS 00004	Cure Epoxy 1Hr @150°C	15	15		31/10/23	SR	Equipment #:8 Oven Temp Check:152°C
6	100% Electrical Test +25°C	Manufacturers Datasheet	10	10		31/10/23	DPB	Equipment #:13 Equipment #:14
7	100% Electrical Test -55°C	Manufacturers Datasheet	10	10		1/11/23	DPB	Equipment #:13 Equipment #:14

ALL ELECTRICAL TEST RESULTS ARE SUPPLIED ELECTRONICALLY



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SEQ	OPERATION/PS	CONDITIONS	QTY	ACCEPT	REJ.	DATE	SIG.	COMMENTS
8	100% Electrical Test +125°C	Manufacturers Datasheet	10	10		1/11/23	DPB	Equipment #:12 Program# 2N3904
9	Bond Pull Test Bake PS 00005	MIL STD 883 TM2011 1hr 300°C bake	10	10		3/11/23	DPB	Equipment #:8 Oven Temp Check# 301°C
10	Bond Pull Test PS 00006	MIL STD 883 TM2011 Attach Electronic Results to Folder	10	10		7/11/23	DPB	Equipment #:15 BPR:0037
11	Final QA PS 00001	Check Test Records and Documentation	10	10		8/11/23	DSB	
12	Dispatch goods and Electronic Records to customer		1	1		9/11/23	RB	
13								
14								

ALL ELECTRICAL TEST RESULTS ARE SUPPLIED ELECTRONICALLY

**Data**

Device #	Result	1.1 VCB0	2.1 VCE0(BR)	3.1 VEB0	4.1 ICB0	5.1 IEB0	6.1 hfe1(DC)	7.1 hfe1(DC)	8.1 hfe1(DC)	9.1 hfe1(DC)	10.1 hfe1(DC)	1.1 VCE(sat)	2.1 VCE(sat)	3.1 VBE(sat)	4.1 VBE(sat) 2
Unit		V	V	mV	nA	nA						mV	mV	mV	mV
Lower limit		60.000	40.000	6000.000			40.000	70.000	120.000	60.000	30.000	0.000	0.000	400.000	0.000
Upper limit		250.000	200.000	12000.000	50.000	50.000	300.000	500.000	760.000	500.000	500.000	200.000	300.000	850.000	950.000
1	Pass	124.22	53.53	11355.38	0.37	0.19	166.09	195.24	194.99	145.47	56.49	74.30	135.41	745.38	852.61
2	Pass	149.21	53.55	11434.75	0.04	0.17	177.71	200.01	198.94	145.92	56.49	73.33	133.79	740.23	847.67
3	Pass	148.93	53.72	11284.75	0.03	0.20	166.14	193.69	194.61	145.51	56.80	73.31	132.41	743.66	849.60
4	Pass	149.37	53.65	11366.63	0.03	0.19	177.62	196.76	196.44	145.75	56.65	72.79	132.09	743.56	849.79
5	Pass	147.54	53.61	11397.13	0.05	0.18	177.61	200.03	197.77	145.84	56.18	73.86	135.78	743.01	848.86
6	Pass	147.62	53.68	11506.38	0.04	0.16	177.62	196.83	197.28	146.10	56.65	73.31	133.96	742.88	849.11
7	Pass	148.47	53.54	11410.00	0.04	0.14	177.60	196.80	197.54	146.11	56.80	73.24	132.56	742.27	848.43
8	Pass	147.30	53.65	11380.88	0.04	0.19	177.54	199.99	197.77	145.45	56.18	73.06	131.62	741.40	848.03
9	Pass	144.49	53.79	11337.50	0.12	0.14	166.09	196.81	196.75	145.71	56.65	73.68	134.44	743.01	849.60
10	Pass	147.98	53.59	11411.63	0.04	0.16	177.52	195.14	195.94	145.78	56.65	73.66	134.01	745.23	851.88

Cust Spec :MAN. Data Sheet

LQH #:019

TEMP =25°C

DEVICE: 2N3904



**Data**

Device #	Result	1 VCB0	2 VCE0(BR)	3 VEB0	4 ICB0	5 IEB0	6 hfe1(DC)	7 hfe1(DC)	8 hfe1(DC)	9 hfe1(DC)	10 hfe1(DC)	11 VCE(sat) 1	12 VCE(sat) 2	13 VBE(sat) 1	14 VBE(sat) 2
Unit		V	V	mV	nA	nA						mV	mV	mV	mV
Lower limit		60.000	40.000	6000.000			40.000	70.000	120.000	60.000	30.000	0.000	0.000	400.000	0.000
Upper limit		250.000	200.000	12000.000	50.000	50.000	300.000	500.000	760.000	500.000	500.000	200.000	300.000	850.000	950.000
1	Pass	145.29	53.94	11405.75	0.03	0.13	105.87	147.82	161.74	114.51	50.34	73.57	134.01	752.23	876.71
2	Pass	137.05	53.57	11422.75	0.12	0.16	136.64	156.62	166.98	116.07	50.80	73.71	133.78	749.62	873.24
3	Pass	152.31	54.30	11437.00	0.08	0.40	105.96	146.31	162.29	114.37	50.18	73.02	131.93	749.30	873.34
4	Pass	146.55	53.79	11355.75	0.03	0.13	125.26	153.54	165.80	115.40	50.49	73.33	132.94	747.14	858.71
5	Pass	148.46	53.86	11409.13	0.04	0.12	125.06	153.62	165.34	115.18	50.18	73.20	134.09	747.46	854.50
6	Pass	149.35	54.05	11413.13	0.04	0.17	125.11	152.10	164.70	114.77	50.03	73.48	135.07	748.20	855.02
7	Pass	145.27	56.47	11522.00	0.10	0.69	70.84	105.18	143.52	108.57	49.57	73.06	132.26	749.58	856.55
8	Pass	145.28	53.76	11386.00	0.04	0.11	125.11	153.62	166.26	115.52	50.34	73.31	133.01	747.38	853.44
9	Pass	126.45	53.49	11339.25	0.44	0.16	136.42	156.62	166.88	115.59	50.34	74.53	135.82	748.27	856.99
10	Pass	126.41	53.65	11431.25	0.45	0.16	136.52	156.55	166.94	115.47	50.34	74.53	135.66	749.13	857.31

Cust Spec :MAN. Data Sheet

LQH #:019

TEMP =-55°C

DEVICE:2N3904



**Data**

Device #	Result	1 VCB0	2 VCE0(BR)	3 VEB0	4 ICB0	5 IEB0	6 hfe1(DC)	7 hfe1(DC)	8 hfe1(DC)	9 hfe1(DC)	10 hfe1(DC)	11 VCE(sat) 1	12 VCE(sat) 2	13 VBE(sat) 1	14 VBE(sat) 2
Unit		V	V	mV	nA	nA						mV	mV	mV	mV
Lower limit		60.000	40.000	6000.000			40.000	70.000	120.000	60.000	30.000	0.000	0.000	400.000	0.000
Upper limit		250.000	200.000	12000.000	50.000	50.000	300.000	500.000	760.000	500.000	500.000	200.000	300.000	850.000	950.000
1	Pass	126.29	53.62	11431.38	0.45	0.16	222.41	236.75	197.31	145.41	91.18	76.47	141.63	741.50	800.53
2	Pass	144.81	53.82	11386.38	0.04	0.15	201.78	233.68	195.84	145.54	91.34	76.13	138.88	741.63	798.90
3	Pass	148.07	59.12	9465.13	0.10	1.65	96.77	156.56	156.88	133.36	89.54	76.96	139.46	741.23	797.30
4	Pass	146.54	56.62	11428.50	0.13	1.72	99.71	148.67	177.27	139.11	90.12	76.29	138.93	735.85	796.17
5	Pass	148.74	53.97	11440.00	0.04	0.20	201.64	192.10	195.19	189.60	91.03	76.80	141.13	740.99	798.24
6	Pass	148.35	53.87	11513.50	0.04	0.12	202.75	193.63	196.49	188.65	91.18	76.34	140.14	740.91	799.14
7	Pass	146.00	53.87	11361.75	0.03	0.17	199.67	193.63	195.45	189.78	91.49	76.16	138.25	742.16	797.92
8	Pass	148.43	53.92	11499.88	0.05	0.11	204.59	196.68	198.63	183.53	91.03	75.98	138.33	737.20	795.03
9	Pass	134.66	53.73	11395.38	0.12	0.14	219.07	196.64	197.24	187.18	91.49	76.62	139.93	741.67	797.92
10	Pass	147.91	53.91	11387.63	0.04	0.12	208.65	192.08	194.61	187.53	91.03	76.66	140.51	742.03	801.17

Cust Spec :MAN. Data Sheet

LQH #:019

TEMP =125°C

DEVICE:2N3904



<b>Part #</b>	2N3904	<b>Date</b>	7 <sup>th</sup> Nov 2023
<b>Sample Qty</b>	5	<b>Bond Type</b>	Ball
<b>Wire Size</b>	25μ	<b>Wire Type</b>	Au
<b>Min allowable strength</b>	2.5gm	<b>BPR</b>	0037
<b>Customer</b>	AMEY	<b>Customer PO- SO</b>	20231030.0015
<b>Batch #</b>	LQH0018	<b>Equipment</b>	XYZTEC

SN: 11			SN: 12			SN: 13			SN: 14			SN: 15					
#	F	C	#	F	C	#	F	C	#	F	C	#	F	C	#	F	C
1	5.77	8	3	5.57	8	5	6.68	8	7	5.11	8	9	5.24	8			
2	6.62	8	4	6.15	8	6	5.12	8	8	7.26	8	10	6.87	8			

F=Pull Strength in gms C=Failure Code

### CODES

1. No Wire Break
2. Bond lift from Die
3. Bond lift from Post
4. Wire breaks at Heal
5. Die Metallisation delaminates
6. No Connection
7. Wire Breaks from Die
8. Bond Breaks at span