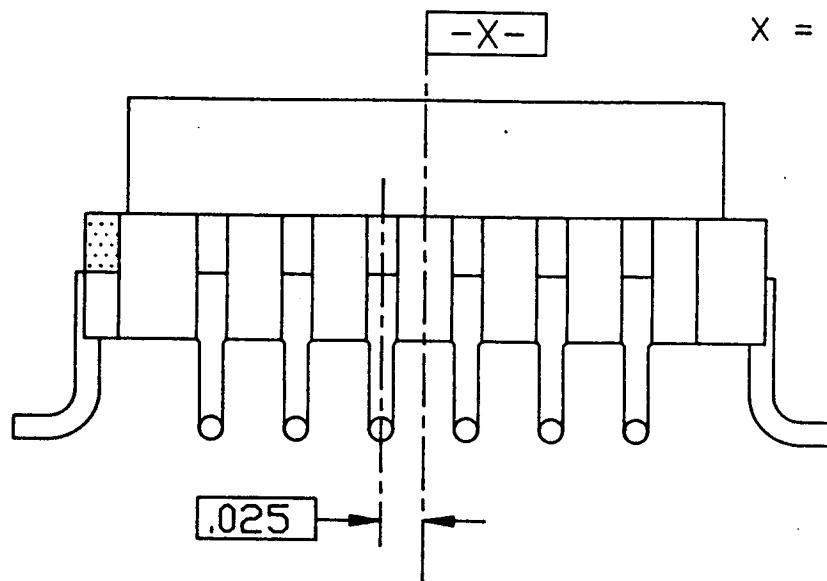


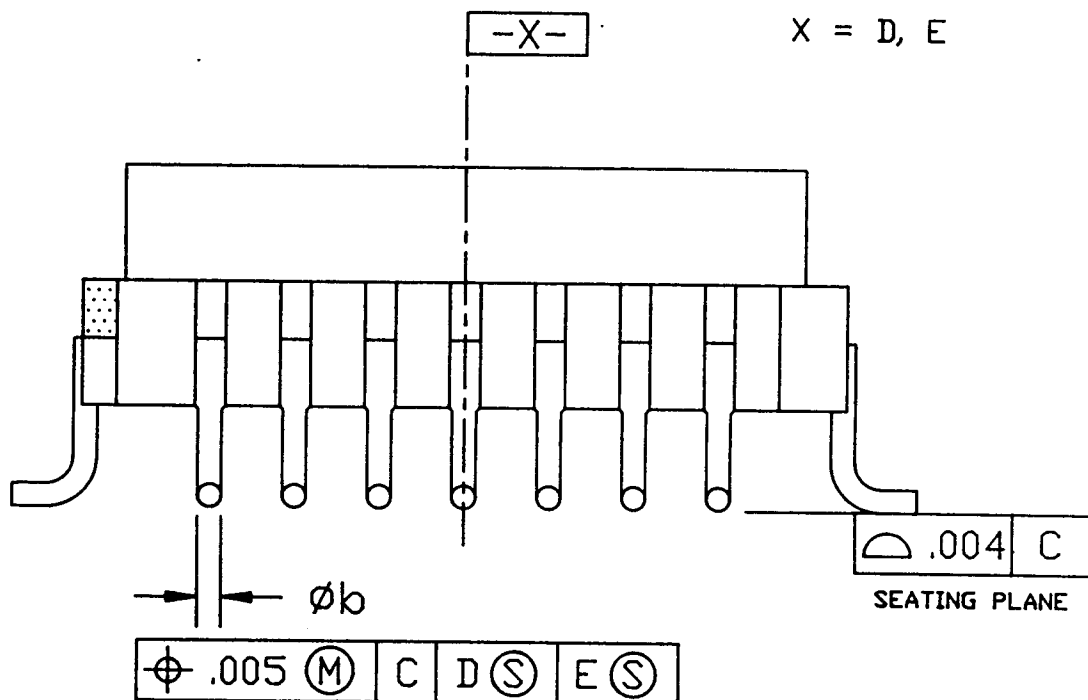
NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M-1982.
2. CONTROLLING DIMENSION: INCH.
3. REFER TO SECTION 2.2 FOR SYMBOL LIST.
4. PIN NUMBER IS ASCENDING IN THE COUNTERCLOCKWISE DIRECTION PER JEDEC LEADLESS PACKAGE NUMBERING CONVENTION.
5. N IS THE NUMBER OF TERMINALS. ND DENOTES NUMBER OF LEADS ON THE TWO NARROW SIDES OF RECTANGULAR PACKAGE. NE DENOTES NUMBER OF LEADS ON THE LONG SIDES OF RECTANGULAR PACKAGE. ND = NE FOR SQUARE PACKAGE.
6. FEATURES FOR PIN #1 INDICATOR, ELECTRICAL/OPTICAL ORIENTATION OR HANDLING PURPOSES MUST BE WITHIN THE AREA SHOWN.
7. WHEN A WINDOW IS USED, DIMENSIONS 'A' AND 'A2' MUST INCREASE BY A MINIMUM OF .010 INCH (0.254 mm) AND A MAXIMUM OF .040 INCH (1.02 mm).

JEDEC SOLID STATE PRODUCT OUTLINE	TITLE ROUND LEAD, 'GULLWING' .050" CENTER CERAMIC CHIP CARRIER	ISSUE A	DATE 7-90	MQ-111	SHEET 1 OF 8
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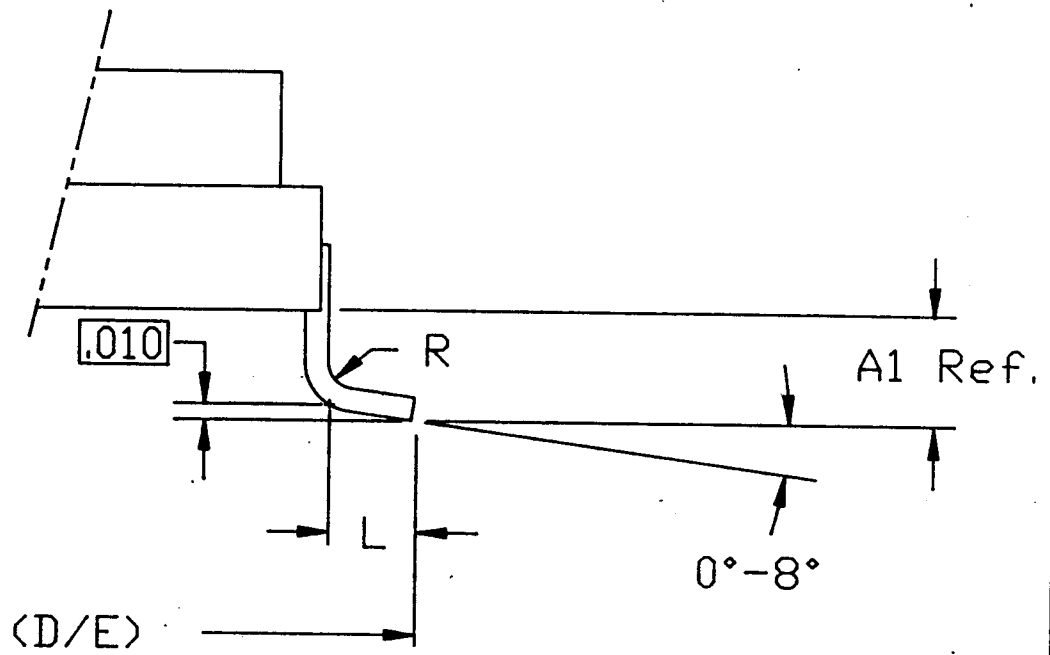


SIDE VIEW - ND or NE = EVEN NUMBER

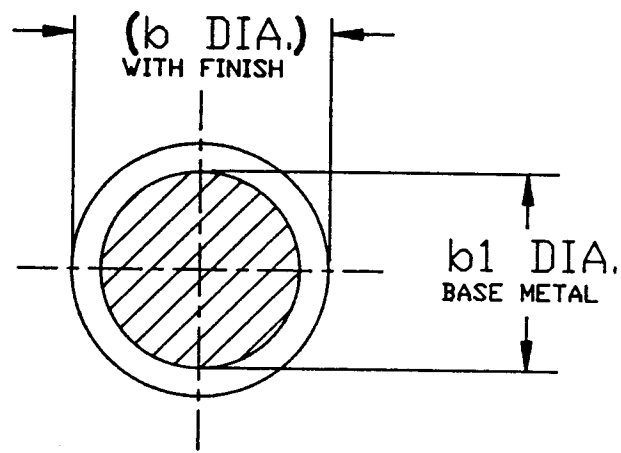


SIDE VIEW - ND or NE = ODD NUMBER

JEDEC SOLID STATE PRODUCT OUTLINE	TITLE ROUND LEAD "GULLWING" .050" CENTER CERAMIC CHIP CARRIER	ISSUE A	DATE 7-90	M□-111	SHEET 2 OF 8
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LEAD DETAIL



LEAD CROSS SECTION

JEDEC SOLID STATE PRODUCT OUTLINE	TITLE ROUND LEAD "GULLWING" .050" CENTER CERAMIC CHIP CARRIER	ISSUE A	DATE 7-90	MQ-111	SHEET 3 OF 8
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VARIATIONS					ALL DIMENSIONS IN MILLIMETERS									
SYMBOL	AA			7	SYMBOL	AB			7	SYMBOL	AC			7
	MIN.	NOM.	MAX.			MIN.	NOM.	MAX.			MIN.	NOM.	MAX.	
A	2.54		5.08		A	2.54		5.08		A	2.54		5.08	
A1	1.02		2.54		A1	1.02		2.54		A1	1.02		2.54	
A2	1.27		3.05		A2	1.27		3.05		A2	1.27		3.05	
A3	0.94		2.24		A3	0.94		2.24		A3	0.94		2.24	
Øb	0.31		.46		Øb	0.31		.46		Øb	0.31		.46	
Øb1	0.31	0.36	0.41		Øb1	0.31	0.36	0.41		Øb1	0.31	0.36	0.41	
D	9.20	9.65	10.11		D	10.47	10.92	11.38		D	11.81	12.19	12.70	
D1	7.42	7.62	7.82		D1	8.69	8.89	9.09		D1	10.03	10.16	10.41	
D3		3.81 BSC			D3		5.08 BSC			D3		6.35 BSC		
D4			7.42		D4			8.69		D4			10.03	
E	9.20	9.65	10.11		E	10.47	10.92	11.38		E	11.81	12.19	12.70	
E1	7.42	7.62	7.82		E1	8.69	8.89	9.09		E1	10.03	10.16	10.41	
E3		3.81 BSC			E3		5.08 BSC			E3		6.35 BSC		
E4			7.42		E4			8.69		E4			10.03	
R	.381				R	.381				R	.381			
L	.762				L	.762				L	.762			
e		1.27 BSC			e		1.27 BSC			e		1.27 BSC		
ND		4		5	ND		5		5	ND		6		5
NE		4		5	NE		5		5	NE		6		5
N		16		4.5	N		20		4.5	N		24		4.5
NOTE		1,2,3												
REF.		10-293												
ISSUE		A												

VARIATIONS					ALL DIMENSIONS IN INCHES									
SYMBOL	AA			7	SYMBOL	AB			7	SYMBOL	AC			7
	MIN.	NOM.	MAX.			MIN.	NOM.	MAX.			MIN.	NOM.	MAX.	
A	.100		.200		A	.100		.200		A	.100		.200	
A1	.040		.100		A1	.040		.100		A1	.040		.100	
A2	.050		.120		A2	.050		.120		A2	.050		.120	
A3	.037		.088		A3	.037		.088		A3	.037		.088	
Øb	.012		.018		Øb	.012		.018		Øb	.012		.018	
Øb1	.012	.014	.016		Øb1	.012	.014	.016		Øb1	.012	.014	.016	
D	.362	.380	.398		D	.412	.430	.448		D	.465	.480	.500	
D1	.292	.300	.308		D1	.342	.350	.358		D1	.395	.400	.410	
D3		.150 BSC			D3		.200 BSC			D3		.250 BSC		
D4			.292		D4			.342		D4			.395	
E	.362	.380	.398		E	.412	.430	.448		E	.465	.480	.500	
E1	.292	.300	.308		E1	.342	.350	.358		E1	.395	.400	.410	
E3		.150 BSC			E3		.200 BSC			E3		.250 BSC		
E4			.292		E4			.342		E4			.395	
R	.015				R	.015				R	.015			
L	.030				L	.030				L	.030			
e		.050 BSC			e		.050 BSC			e		.050 BSC		
ND		4		5	ND		5		5	ND		6		5
NE		4		5	NE		5		5	NE		6		5
N		16		4.5	N		20		4.5	N		24		4.5
NOTE		1,2,3												
REF.		10-293												
ISSUE		A												
JEDEC SOLID STATE PRODUCT OUTLINE					TITLE ROUND LEAD "GULLWING" .050" CENTER CERAMIC CHIP CARRIER					ISSUE A	DATE 7-90	MO-111		SHEET 4 OF 8

VARIATIONS					ALL DIMENSIONS IN MILLIMETERS									
SYMBOL	AD			7	SYMBOL	AE			7	SYMBOL	AF			7
	MIN.	NOM.	MAX.			MIN.	NOM.	MAX.			MIN.	NOM.	MAX.	
A	2.54		5.08		A	2.54		5.08		A	2.54		5.08	
A1	1.02		2.54		A1	1.02		2.54		A1	1.02		2.54	
A2	1.27		3.05		A2	1.27		3.05		A2	1.27		3.05	
A3	0.94		2.24		A3	0.94		2.24		A3	0.94		2.24	
Øb	0.31		0.46		Øb	0.31		0.46		Øb	0.31		0.46	
Øb1	0.31	0.36	0.41		Øb1	0.31	0.36	0.41		Øb1	0.31	0.36	0.41	
D	13.01	13.46	13.92		D	18.04	18.54	19.05		D	20.55	21.08	21.62	
D1	11.23	11.43	11.63		D1	16.26	16.51	16.76		D1	18.77	19.05	19.33	
D3	7.62 BSC				D3	12.7 BSC				D3	15.24 BSC			
D4			11.23		D4			16.26		D4			18.77	
E	13.01	13.46	13.92		E	18.04	18.54	19.05		E	20.55	21.08	21.62	
E1	11.23	11.43	11.63		E1	16.26	16.51	16.76		E1	18.77	19.05	19.33	
E3	7.62 BSC				E3	12.7 BSC				E3	15.24 BSC			
E4			11.23		E4			16.26		E4			18.77	
R	.381				R	.381				R	.381			
L	.762				L	.762				L	.762			
e	1.27 BSC				e	1.27 BSC				e	1.27 BSC			
ND	7			5	ND	11			5	ND	13			5
NE	7			5	NE	11			5	NE	13			5
N	28			4.5	N	44			4.5	N	52			4.5
NOTE	1.23													
REF.	10-293													
ISSUE	A													

VARIATIONS					ALL DIMENSIONS IN INCHES												
SYMBOL	AD			7	SYMBOL	AE			7	SYMBOL	AF			7			
	MIN.	NOM.	MAX.			MIN.	NOM.	MAX.			MIN.	NOM.	MAX.				
A	.100		.200		A	.100		.200		A	.100		.200				
A1	.040		.100		A1	.040		.100		A1	.040		.100				
A2	.050		.120	7	A2	.050		.120	7	A2	.050		.120	7			
A3	.037		.088		A3	.037		.088		A3	.037		.088				
Øb	.012		.018		Øb	.012		.018		Øb	.012		.018				
Øb1	.012	.014	.016		Øb1	.012	.014	.016		Øb1	.012	.014	.016				
D	.512	.530	.548		D	.710	.730	.750		D	.809	.830	.851				
D1	.442	.450	.458		D1	.640	.650	.660		D1	.739	.750	.761				
D3	.300 BSC				D3	.500 BSC				D3	.600 BSC						
D4			.442		D4			.640		D4			.739				
E	.512	.530	.548		E	.710	.730	.750		E	.809	.830	.851				
E1	.442	.450	.458		E1	.640	.650	.660		E1	.739	.750	.761				
E3	.300 BSC				E3	.500 BSC				E3	.600 BSC						
E4			.442		E4			.640		E4			.739				
R	.015				R	.015				R	.015						
L	.030				L	.030				L	.030						
e	.050 BSC				e	.050 BSC				e	.050 BSC						
ND	7			5	ND	11			5	ND	13			5			
NE	7			5	NE	11			5	NE	13			5			
N	28			4,5	N	44			4,5	N	52			4,5			
NOTE	1,2,3																
REF.	10-293																
ISSUE	A																
JEDEC SOLID STATE PRODUCT OUTLINE					TITLE ROUND LEAD 'GULLWING' .050" CENTER CERAMIC CHIP CARRIER					ISSUE A		DATE 7-90		MO-111		SHEET 5 OF 8	

VARIATIONS ALL DIMENSIONS IN MILLIMETERS													
SYMBOL	AG			7	SYMBOL	AH			7	SYMBOL			
	MIN.	NOM.	MAX.			MIN.	NOM.	MAX.			MIN.	NOM.	MAX.
A	2.54		5.08		A	2.54		5.08		A			
A1	1.02		2.54		A1	1.02		2.54		A1			
A2	1.27		3.05		A2	1.27		3.05		A2			
A3	0.94		2.24		A3	0.94		2.24		A3			
Øb	0.31		0.46		Øb	0.31		0.46		Øb			
Øb1	0.31	0.36	0.41		Øb1	0.31	0.36	0.41		Øb1			
D	25.61	26.16	26.72		D	30.61	31.24	31.88		D			
D1	23.83	24.14	24.43		D1	28.83	29.21	29.59		D1			
D3	20.32 BSC				D3	25.4 BSC				D3			
D4			23.83		D4			28.83		D4			
E	25.61	26.16	26.72		E	30.61	31.24	31.88		E			
E1	23.83	24.14	24.43		E1	28.83	29.21	29.59		E1			
E3	20.32 BSC				E3	25.4 BSC				E3			
E4			23.83		E4			28.83		E4			
R	.381				R	.381				R			
L	.762				L	.762				L			
e	1.27 BSC				e	1.27 BSC				e			
ND		17		5	ND		21		5	ND			
NE		17		5	NE		21		5	NE			
N		68		4.5	N		84		4.5	N			
NOTE	1,2,3												
REF.	10-293												
ISSUE	A												

VARIATIONS ALL DIMENSIONS IN INCHES													
SYMBOL	AG			7	SYMBOL	AH			7	SYMBOL			
	MIN.	NOM.	MAX.			MIN.	NOM.	MAX.			MIN.	NOM.	MAX.
A	.100		.200		A	.100		.200		A			
A1	.040		.100		A1	.040		.100		A1			
A2	.050		.120		A2	.050		.120		A2			
A3	.037		.088		A3	.037		.088		A3			
Øb	.012		.018		Øb	.012		.018		Øb			
Øb1	.012	.014	.016		Øb1	.012	.014	.016		Øb1			
D	1.008	1.030	1.052		D	1.205	1.23	1.255		D			
D1	.938	.950	.962		D1	1.135	1.150	1.165		D1			
D3	.800 BSC				D3	1.000 BSC				D3			
D4			.938		D4			1.135		D4			
E	1.008	1.030	1.052		E	1.205	1.23	1.255		E			
E1	.938	.950	.962		E1	1.135	1.150	1.165		E1			
E3	.800 BSC				E3	1.000 BSC				E3			
E4			.938		E4			1.135		E4			
R	.015				R	.015				R			
L	.030				L	.030				L			
e	.050 BSC				e	.050 BSC				e			
ND		17		5	ND		21		5	ND			
NE		17		5	NE		21		5	NE			
N		68		4.5	N		84		4.5	N			
NOTE	1,2,3												
REF.	10-293												
ISSUE	A												
JEDEC SOLID STATE PRODUCT OUTLINE					TITLE ROUND LEAD 'GULLWING' .050' CENTER CERAMIC CHIP CARRIER					ISSUE A	DATE 7-90	MQ-111	SHEET 6 OF 8

VARIATIONS					ALL DIMENSIONS IN MILLIMETERS									
SYMBOL	BA			7	SYMBOL	BB			7	SYMBOL	BC			7
	MIN.	NOM.	MAX.			MIN.	NOM.	MAX.			MIN.	NOM.	MAX.	
A	2.54		5.08		A	2.54		5.08		A	2.54		5.08	
A1	1.02		2.54		A1	1.02		2.54		A1	1.02		2.54	
A2	1.27		3.05	7	A2	1.27		3.05	7	A2	1.27		3.05	7
A3	0.94		2.24		A3	0.94		2.24		A3	0.94		2.24	
øb	0.31		0.46		øb	0.31		0.46		øb	0.31		0.46	
øb1	0.31	0.36	0.41		øb1	0.31	0.36	0.41		øb1	0.31	0.36	0.41	
D	8.89	9.27	10.03		D	8.89	9.27	10.03		D	8.89	9.27	10.03	
D1	7.11	7.24	7.75		D1	7.11	7.24	7.75		D1	7.11	7.24	7.75	
D3	3.81 BSC				D3	3.81 BSC				D3	3.81 BSC			
D4			7.11		D4			7.11		D4			7.11	
E	12.37	13.08	13.46		E	12.37	13.08	13.46		E	13.97	14.48	14.99	
E1	10.59	11.05	11.18		E1	10.59	11.05	11.18		E1	12.19	12.45	12.70	
E3	5.08 BSC				E3	6.35 BSC				E3	7.62 BSC			
E4			8.69		E4			10.59		E4			12.19	
R	.381				R	.381				R	.381			
L	.762				L	.762				L	.762			
e	1.27 BSC				e	1.27 BSC				e	1.27 BSC			
ND	4			5	ND	4			5	ND	4			5
NE	5			5	NE	6			5	NE	7			5
N	18			4,5	N	20			4,5	N	22			4,5
NOTE	1,2,3													
REF.	10-293													
ISSUE	A													

VARIATIONS					ALL DIMENSIONS IN INCHES									
SYMBOL	BA			7	SYMBOL	BB			7	SYMBOL	BC			7
	MIN.	NOM.	MAX.			MIN.	NOM.	MAX.			MIN.	NOM.	MAX.	
A	.100		.200		A	.100		.200		A	.100		.200	
A1	.040		.100		A1	.040		.100		A1	.040		.100	
A2	.050		.120	7	A2	.050		.120	7	A2	.050		.120	7
A3	.037		.088		A3	.037		.088		A3	.037		.088	
Øb	.012		.018		Øb	.012		.018		Øb	.012		.018	
Øb1	.012	.014	.016		Øb1	.012	.014	.016		Øb1	.012	.014	.016	
D	.350	.365	.395		D	.350	.365	.395		D	.350	.365	.395	
D1	.280	.285	.305		D1	.280	.285	.305		D1	.280	.285	.305	
D3	.150 BSC				D3	.150 BSC				D3	.150 BSC			
D4			.280		D4			.280		D4			.280	
E	.487	.515	.530		E	.487	.515	.530		E	.550	.570	.590	
E1	.417	.435	.440		E1	.417	.435	.440		E1	.480	.490	.500	
E3	.200 BSC				E3	.250 BSC				E3	.300 BSC			
E4			.417		E4			.417		E4			.480	
R	.015				R	.015				R	.015			
L	.030				L	.030				L	.030			
e	.050 BSC				e	.050 BSC				e	.050 BSC			
ND	4			5	ND	4			5	ND	4			5
NE	5			5	NE	6			5	NE	7			5
N	18			4,5	N	20			4,5	N	22			4,5
NOTE	1,2,3													
REF.	10-293													
ISSUE	A													

JEDEC		TITLE		ISSUE		DATE		SHEET	
SOLID STATE PRODUCT		ROUND LEAD "GULLWING"		A		7-90		7	
OUTLINE		.050" CENTER				M□-111		OF	
		CERAMIC CHIP CARRIER						8	

VARIATIONS					ALL DIMENSIONS IN MILLIMETERS									
SYMBOL	BD			7	SYMBOL	BE			7	SYMBOL				7
	MIN.	NOM.	MAX.			MIN.	NOM.	MAX.			MIN.	NOM.	MAX.	
A	2.54		5.08		A	2.54		5.08		A				
A1	1.02		2.54		A1	1.02		2.54		A1				
A2	1.27		3.05		A2	1.27		3.05		A2				
A3	0.94		2.24		A3	0.94		2.24		A3				
Øb	0.31		0.46		Øb	0.31		0.46		Øb				
Øb1	0.31	0.36	0.41		Øb1	0.31	0.36	0.41		Øb1				
D	10.47	10.92	11.40		D	13.01	13.46	13.94		D				
D1	8.69	8.89	9.09		D1	11.23	11.43	11.63		D1				
D3	5.08 BSC				D3	7.62 BSC				D3				
D4			8.69		D4			11.23		D4				
E	15.50	16.00	16.51		E	15.50	16.00	16.51		E				
E1	13.72	13.97	14.22		E1	13.72	13.97	14.22		E1				
E3	10.16 BSC				E3	10.16 BSC				E3				
E4			13.72		E4			13.72		E4				
R	.381				R	.381				R				
L	.762				L	.762				L				
e	1.27 BSC				e	1.27 BSC				e				
ND	5			5	ND	7			5	ND				
NE	9			5	NE	9			5	NE				
N	28			4,5	N	32			4,5	N				
NOTE	1,2,3													
REF.	10-293													
ISSUE	A													

VARIATIONS					ALL DIMENSIONS IN INCHES												
SYMBOL	BD			7	SYMBOL	BE			7	SYMBOL				7			
	MIN.	NOM.	MAX.			MIN.	NOM.	MAX.			MIN.	NOM.	MAX.				
A	.100		.200		A	.100		.200		A							
A1	.040		.100		A1	.040		.100		A1							
A2	.050		.120	7	A2	.050		.120	7	A2							
A3	.037		.088		A3	.037		.088		A3							
Øb	.012		.018		Øb	.012		.018		Øb							
Øb1	.012	.014	.016		Øb1	.012	.014	.016		Øb1							
D	.412	.430	.449		D	.512	.530	.549		D							
D1	.342	.350	.358		D1	.442	.450	.458		D1							
D3	.200 BSC				D3	.300 BSC				D3							
D4			.342		D4			.442		D4							
E	.610	.630	.650		E	.610	.630	.650		E							
E1	.540	.550	.560		E1	.540	.550	.560		E1							
E3	.400 BSC				E3	.400 BSC				E3							
E4			.540		E4			.540		E4							
R	.015				R	.015				R							
L	.030				L	.030				L							
e	.050 BSC				e	.050 BSC				e							
ND	5			5	ND	7			5	ND							
NE	9			5	NE	9			5	NE							
N	28			4,5	N	32			4,5	N							
NOTE	1,2,3																
REF.	10-293																
ISSUE	A																
JEDEC SOLID STATE PRODUCT OUTLINE					TITLE ROUND LEAD 'GULLWING' .050" CENTER CERAMIC CHIP CARRIER					ISSUE A		DATE 7-90		MO-111		SHEET 8 OF 8	