







RECTANGULAR PACKAGES 13

TABLE 1

VARIATION DESIGNATORS							
FIRST DIGIT CODE		SECOND DIGIT CODE		THIRD DIGIT CODE		FOURTH DIGIT CODE	
OVERALL HEIGHT		BODY LENGTH		BODY WIDTH		TERMINAL PITCH	
A	LETTER CODE	D	LETTER CODE	E	LETTER CODE	e	LETTER CODE
1.00 MAX	V	1.00	A	1.00	A	0.95	A
0.80 MAX	W	1.50	B	1.50	B	0.80	B
—	—	2.00	C	2.00	C	0.65	C
—	—	2.50	D	2.50	D	0.50	D
—	—	3.00	E	3.00	E	0.40	E
—	—	3.50	F	3.50	F		
—	—	4.00	G	4.00	G	—	—
—	—	4.50	H	4.50	H	—	—
—	—	5.00	J	5.00	J	—	—
—	—	5.50	K	5.50	K	—	—
—	—	6.00	L	6.00	L	—	—

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EXAMPLE: A 10 TERMINAL H(V,W)F-PSON WHICH IS 4mm LONG (DIMENSION D) BY 5mm WIDE (DIMENSION E), A PITCH OF 0.80mm AND A HEIGHT OF 0.8MM MAX WOULD BE LABELLED WGJB.

TABLE 2

TOLERANCE OF FORM & POSITION					
PITCH SYMBOL	0.95	0.80	0.65	0.50	0.40
aaa	0.15	0.15	0.15	0.15	0.10
bbb	0.10	0.10	0.10	0.10	0.07
ccc	0.10	0.10	0.10	0.10	0.10
ddd	0.05	0.05	0.05	0.05	0.05
eee	0.08	0.08	0.08	0.08	0.08
ggg	0.10	0.10	0.10	0.10	0.10
NOTES	1,2				
REF	11-660				
ISSUE	C				

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TABLE 3

COMMON DIMENSIONS							
	V: VERY THIN			W: VERY VERY THIN			
<i>SYMBOL</i>	<i>MIN</i>	<i>NOM</i>	<i>MAX</i>	<i>MIN</i>	<i>NOM</i>	<i>MAX</i>	<i>NOTES</i>
A	>0.80	0.90	1.00	0.70	0.75	0.80	
A1	0	0.02	0.05	0	0.02	0.05	
A2	0.55	0.65	0.80	0.45	0.55	0.65	
A3	–	0.20 REF	–	–	0.20 REF	–	
L1	–	–	0.15	–	–	0.15	14
L2	–	–	0.13	–	–	0.13	15
θ	0	–	14°	0	–	14°	
K	0.20	–	–	0.20	–	–	
K2	0.17	–	–	0.17	–	–	
R	b MIN/2	–	–	b MIN/2	–	–	
M	–	–	0.60		–	–	0.60
NOTES	1,2						
REF	11–660						
ISSUE	C						

TABLE 4

LEAD WIDTH			
b			
<i>PITCH</i>	<i>MIN</i>	<i>NOM</i>	<i>MAX</i>
0.95	0.30	0.40	0.45
0.80	0.25	0.30	0.35
0.65	0.25	0.30	0.35
0.50	0.18	0.25	0.30
0.40	0.15	0.20	0.25
NOTES	1,2,5		
REF	11–619		
ISSUE	B		

TABLE 5

SUMMARY TABLE SQUARE PACKAGES				
BODY SIZE	LEAD PITCH	LEAD COUNT	VERY THIN PROFILE	VERY VERY THIN PROFILE
1.5 X 1.5	0.50	4	VBBD	WBBD
2.0 X 2.0	0.65	6	VCCC	—
	0.50	4	VCCD-1	WCCD-1
	0.50	6	VCCD-2,4	WCCD-2,4
	0.50	8	VCCD-3	—
2.5 X 2.5	0.80	6	Vddb	Wddb
	0.50	6	VDDD-1	WDDD-1
	0.50	8	VDDD-2	WDDD-2
3.0 X 3.0	0.95	6	VEEA-1,2	WEEA-1,2
	0.80	6	VEEB	WEEB
	0.65	8	VEEC-1,2	WEEC-1,2
	0.50	8	VEED-1,4,6,7	WEED-1,4,6,7
	0.50	10	VEED-2,3,5	WEED-2,3,5
3.5 X 3.5	0.50	10	VFFD-1	WFFD-1
	0.50	12	VFFD-2	WFFD-2
4.0 X 4.0	0.80	8	WGGB	WGGB
	0.65	10	VGGC	WGGC
	0.50	10	VGGD-1	WGGD-1
	0.50	12	VGGD-2	WGGD-2
	0.50	14	VGGD-3	WGGD-3
5.0 X 5.0	0.80	8	VJJB	WJJB
	0.50	16	VJJD-1	WJJD-1
	0.50	18	VJJD-2	WJJD-2

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TABLE 6

SUMMARY TABLE RECTANGULAR PACKAGES, TYPE 1				
BODY SIZE	LEAD PITCH	LEAD COUNT	VERY THIN PROFILE	VERY VERY THIN PROFILE
2.0 X 2.5	0.80	4	VCDB	WCDB
	0.50	6	VCDD-1	WCDD-1
	0.50	8	VCDD-2	WCDD-2
2.0 X 3.0	0.50	6	VCED-1	WCED-1
	0.50	8	VCED-2,3	WCED-2,3
2.5 X 3.0	0.80	6	VDEB	WDEB
	0.50	8	VDED	WDED
3.0 X 4.0	0.80	6	VEGB	WEGB
	0.50	10	VEGD	WEGD
4.0 X 5.0	0.80	10	VGJB	WGJB
	0.50	14	VGJD	WGJD

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13a

TABLE 7

SUMMARY TABLE RECTANGULAR PACKAGES, TYPE 2				
BODY SIZE	LEAD PITCH	LEAD COUNT	VERY THIN PROFILE	VERY VERY THIN PROFILE
1.5 X 1.0	0.50	4	VBAD	WBAD
2.0 X 1.0	0.50	4	VCAD-1	WCAD-1
	0.50	6	VCAD-2	WCAD-2
2.0 X 1.5	0.50	4	VCBD-1	WCB D-1
	0.50	6	VCBD-2	WCB D-2
2.5 X 1.5	0.50	6	VDBD-1	WDBD-1
	0.50	8	VDBD-2	WDBD-2
2.5 X 2.0	0.50	4	VDCD-1	WDCD-1
	0.50	6	VDCD-2	WDCD-2
	0.50	8	VDCD-3	WDCD-3
3.0 X 1.5	0.50	8	VEBD-1	WEBD-1
	0.50	10	VEBD-2	WEBD-2
3.0 X 2.0	0.95	6	VECA	—
	0.65	8	VECC	—
	0.50	8	VECD-1,4	WECD-1,4
	0.50	10	VECD-2,3	WECD-2
3.0 X 2.5	0.50	8	VEDD-1	WEDD-1
	0.50	10	VEDD-2	WEDD-2
3.5 X 2.5	0.50	10	VFDD-1	WFDD-1
	0.50	12	VFDD-2	WFDD-2
3.5 X 3.0	0.50	10	VFED-1	WFED-1
	0.50	12	VFED-2	WFED-2
4.0 X 3.0	0.50	10	VGED-1	WGED-1
	0.50	12	VGED-2,4	WGED-2,4
	0.50	14	VGED-3	WGED-3
5.0 X 3.0	0.50	16	VJED-1	WJED-1
	0.50	18	VJED-2	WJED-2
5.0 X 4.0	0.50	14	VJGD-1	WJGD-1
	0.50	16	VJGD-2	WJGD-2
	0.50	18	VJGD-3	WJGD-3
6.0 X 5.0	0.50	16	VLJD-1	WLJD-1
	0.50	18	VLJD-2	WLJD-2

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13b

TABLE 8

e=0.95mm PITCH									
VARIATION		VECA	VEEA-1	VEEA-2					NOTE
SYMBOL		N/A	N/A	WEEA-2					
D BSC		3.00	3.00	3.00					
E BSC		2.00	3.00	3.00					
D1 BSC		—	—	2.75					
E1 BSC		—	—	2.75					
D2	MIN	0.00	0.00	2.20					
	NOM	—	—	—					
	MAX	2.25	2.25	2.60					
E2	MIN	0.00	0.00	1.40					
	NOM	—	—	—					
	MAX	0.65	1.65	1.75					
L	MIN	0.20	0.20	0.30					
	NOM	0.30	0.30	0.40					
	MAX	0.45	0.45	0.50					
N		6	6	6					3
ND		3	3	3					6
NOTES		1,2	1,2	1,2					
REF		11-585	11-585	11-660					
ISSUE		A	A	C					

TABLE 9

e=0.80mm PITCH											
VARIATION SYMBOL		VCDB	VDDb	VDEb	VEEb	N/A	VEGb	VGGB	VGJb	VJJb	NOTE
		WCDB	WDDB	WDEb	N/A	WEEb	WEGb	WGGB	WGJb	WJJb	
D BSC		2.00	2.50	2.50	3.00	3.00	3.00	4.00	4.00	5.00	
E BSC		2.50	2.50	3.00	3.00	3.00	4.00	4.00	5.00	5.00	
D1 BSC		1.75	2.25	2.25	2.75	2.75	2.75	3.75	3.75	4.75	
E1 BSC		2.25	2.25	2.75	2.75	2.75	3.75	3.75	4.75	4.75	
D2	MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	NOM	1.00	1.50	1.50	2.20	2.00	2.00	3.00	3.00	4.00	
	MAX	1.10	1.60	1.60	2.25	2.10	2.10	3.10	3.10	4.10	
E2	MIN	0.00	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00	
	NOM	0.70	0.70	1.20	1.20	1.20	2.20	2.20	3.20	3.20	
	MAX	0.80	0.80	1.30	1.30	1.30	2.30	2.30	3.30	3.30	
L	MIN	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	
	NOM	0.55	0.55	0.55	0.50	0.55	0.55	0.55	0.55	0.55	
	MAX	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	
N		4	6	6	6	6	6	8	10	8	3
ND		2	3	3	3	3	3	4	5	4	6
NOTES		1,2,13a	1,2	1,2,13a	1,2	1,2	1,2,13a	1,2	1,2,13a	1,2	
REF		11-619	11-585	11-585	11-585	11-619	11-585	11-585	11-585	11-585	
ISSUE		B	A	A	A	B	A	A	A	A	

TABLE 10

e=0.65mm PITCH									
VARIATION		VCCC	VECC	VEEC-1	VEEC-2	VGGC			NOTE
SYMBOL		N/A	N/A	N/A	WEEC-2	WGGC			
D BSC		2.00	3.00	3.00	3.00	4.00			
E BSC		2.00	2.00	3.00	3.00	4.00			
D1 BSC		–	–	–	2.75	3.75			
E1 BSC		–	–	–	2.75	3.75			
D2	MIN	0.00	0.00	0.00	1.60	2.80			
	NOM	–	–	–	–	–			
	MAX	1.58	2.25	2.25	2.50	3.50			
E2	MIN	0.00	0.00	0.00	1.35	2.30			
	NOM	–	–	–	–	–			
	MAX	0.65	0.65	1.30	1.75	2.80			
L	MIN	0.20	0.20	0.20	0.30	0.30			
	NOM	0.30	0.30	0.30	0.40	0.40			
	MAX	0.45	0.45	0.45	0.50	0.50			
N		6	8	8	8	10			3
ND		3	4	4	4	5			6
NOTES		1,2	1,2,13b	1,2	1,2	1,2			
REF		11-619	11-619	11-585	11-660	11-660			
ISSUE		B	B	A	C	C			

TABLE 11

e=0.50mm PITCH										
VARIATION SYMBOL		VBAD	VBBD	VCAD-1	VCAD-2	VCBD-1	VCBD-2	VCCD-1	VCCD-2	NOTE
		WBAD	WBBD	WCAD-1	WCAD-2	WCBD-1	WCBD-2	WCCD-1	WCCD-2	
D BSC		1.50	1.50	2.00	2.00	2.00	2.00	2.00	2.00	
E BSC		1.00	1.50	1.00	1.00	1.50	1.50	2.00	2.00	
D1 BSC		1.25	1.25	1.75	1.75	1.76	1.75	1.75	1.75	
E1 BSC		0.75	1.25	0.75	0.75	1.25	1.25	1.75	1.75	
D2	MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	NOM	0.00	0.70	0.00	0.00	1.20	1.20	1.20	1.20	
	MAX	0.00	0.75	0.00	0.00	1.25	1.25	1.25	1.25	
E2	MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	NOM	0.00	0.10	0.00	0.00	0.10	0.10	0.60	0.60	
	MAX	0.00	0.15	0.00	0.00	0.15	0.15	0.65	0.65	
L	MIN	0.20	0.45	0.20	0.20	0.45	0.45	0.45	0.45	
	NOM	0.30	0.55	0.30	0.30	0.55	0.55	0.55	0.55	
	MAX	0.40	0.65	0.40	0.40	0.65	0.65	0.65	0.65	
N		4	4	4	6	4	6	4	6	3
ND		2	2	2	3	2	3	2	3	6
NOTES		1,2,13b	1,2	1,2,13b	1,2,13b	1,2,13b	1,2,13b	1,2	1,2	
REF		11-585	11-585	11-585	11-585	11-585	11-585	11-585	11-585	
ISSUE		A	A	A	A	A	A	A	A	

TABLE 12

e=0.50mm PITCH										
VARIATION SYMBOL		VCCD-3	VCCD-4	VCDD-1	VCDD-2	VCED-1	VCED-2	VCED-3	VDBD-1	NOTE
		N/A	WCCD-4	WCDD-1	WCCD-2	WCED-1	WCED-2	WCED-3	WDBD-1	
D BSC		2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.50	
E BSC		2.00	2.00	2.50	2.50	3.00	3.00	3.00	1.50	
D1 BSC		—	1.75	1.75	1.75	1.75	1.75	1.75	2.25	
E1 BSC		—	1.75	2.25	2.25	2.75	2.75	2.75	1.25	
D2	MIN	0.00	1.30	0.00	0.00	0.60	1.50	1.20	0.00	
	NOM	1.20	—	1.00	—	—	—	—	1.70	
	MAX	1.25	1.75	1.10	1.10	1.00	1.75	1.60	1.75	
E2	MIN	0.00	0.50	0.00	0.00	0.90	1.60	1.20	0.00	
	NOM	0.60	—	0.70	—	—	—	—	0.10	
	MAX	0.65	0.80	0.80	0.80	1.20	1.90	1.60	0.15	
L	MIN	0.20	0.30	0.45	0.45	0.30	0.30	0.30	0.45	
	NOM	0.30	0.40	0.55	0.55	0.40	0.40	—	0.55	
	MAX	0.45	0.50	0.65	0.65	0.50	0.50	0.45	0.65	
N		8	6	6	8	6	8	8	6	3
ND		4	3	3	4	3	4	4	3	6
NOTES		1,2	1,2	1,2,13a	1,2,13a	1,2,13a	1,2,13a	1,2,13a	1,2,13b	
REF		11-585	11-660	11-585	11-660	11-660	11-660	11-779	11-585	
ISSUE		A	C	A	C	C	C	D	A	

TABLE 13

e=0.50mm PITCH										
VARIATION SYMBOL		VDBD-2	VDCD-1	VDCD-2	VDCD-3	VDDD-1	VDDD-2	VDED	VEBD-1	NOTE
		WDBD-2	WDCD-1	WDCD-2	WDCD-3	WDDD-1	WDDD-2	WDED	WEBD-1	
D BSC		2.50	2.50	2.50	2.50	2.50	2.50	2.50	3.00	
E BSC		1.50	2.00	2.00	2.00	2.50	2.50	3.00	1.50	
D1 BSC		2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.75	
E1 BSC		1.25	1.75	1.75	1.75	2.25	2.25	2.75	1.25	
D2	MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	NOM	1.70	1.70	1.70	1.70	1.70	1.70	1.50	2.20	
	MAX	1.75	1.75	1.75	1.75	1.75	1.75	1.60	2.25	
E2	MIN	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.00	
	NOM	0.10	0.60	0.60	0.60	1.10	1.10	1.20	0.10	
	MAX	0.15	0.65	0.65	0.65	1.15	1.15	1.30	0.15	
L	MIN	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	
	NOM	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	
	MAX	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	
N		8	4	6	8	6	8	8	8	3
ND		4	2	3	4	3	4	4	4	6
NOTES		1,2,13b	1,2,13b	1,2,13b	1,2,13b	1,2	1,2	1,2,13a	1,2,13b	
REF		11-619	11-585	11-585	11-585	11-585	11-585	11-585	11-585	
ISSUE		B	A	A	A	A	A	A	A	

TABLE 14

[e]=0.50mm PITCH										
VARIATION SYMBOL		VEBD-2	VECD-1	VECD-2	VECD-3	VECD-4	VEDD-1	VEDD-2	VEED-1	NOTE
		WEBD-2	WECD-1	WECD-2	N/A	WECD-4	WEDD-1	WEDD-2	N/A	
D BSC		3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
E BSC		1.50	2.00	2.00	2.00	2.00	2.50	2.50	3.00	
D1 BSC		2.75	2.75	2.75	—	2.75	2.75	2.75	2.75	
E1 BSC		1.25	1.75	1.75	—	1.75	2.25	2.25	2.75	
D2	MIN	0.00	0.00	0.00	0.00	1.70	0.00	0.00	0.00	
	NOM	2.20	2.20	2.20	2.20	—	2.20	2.20	2.20	
	MAX	2.25	2.25	2.25	2.25	2.20	2.25	2.25	2.25	
E2	MIN	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	
	NOM	0.10	0.60	0.60	0.60	—	1.10	1.10	1.60	
	MAX	0.15	0.65	0.65	0.65	0.60	1.15	1.15	1.65	
L	MIN	0.45	0.45	0.45	0.20	0.30	0.45	0.30	0.45	
	NOM	0.55	0.55	0.55	0.30	0.40	0.55	0.50	0.55	
	MAX	0.65	0.65	0.65	0.45	0.50	0.65	0.65	0.65	
N		10	8	10	10	8	8	10	8	3
ND		5	4	5	5	4	4	5	4	6
NOTES		1,2,13b	1,2,13b	1,2,13b	1,2,13b	1,2,13b	1,2,13b	1,2,13b	1,2	
REF		11-585	11-585	11-585	11-585	11-660	11-585	11-585	11-585	
ISSUE		A	A	A	A	C	A	A	A	

TABLE 15

[e]=0.50mm PITCH										
VARIATION SYMBOL		N/A	VEED-2	N/A	VEED-3	VEED-4	VEED-5	VEED-6	VEED-7	NOTE
		WEED-1	N/A	WEED-2	N/A	WEED-4	WEED-5	WEED-6	WEED-7	
D BSC		3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
E BSC		3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	
D1 BSC		2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	
E1 BSC		2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	
D2	MIN	0.00	0.00	0.00	0.00	2.20	2.20	2.00	1.20	
	NOM	2.00	2.20	2.00	2.20	—	—	—	—	
	MAX	2.10	2.25	2.10	2.25	2.70	2.70	2.50	1.60	
E2	MIN	0.00	0.00	0.00	0.00	1.40	1.40	1.20	1.20	
	NOM	1.20	1.60	1.20	1.60	—	—	—	—	
	MAX	1.30	1.65	1.30	1.65	1.75	1.75	1.50	1.60	
L	MIN	0.45	0.45	0.45	0.20	0.30	0.30	0.45	0.30	
	NOM	0.55	0.55	0.55	0.30	0.40	0.40	0.55	—	
	MAX	0.65	0.65	0.65	0.45	0.50	0.50	0.65	0.45	
N		8	10	10	10	8	10	8	8	3
ND		4	5	5	5	4	5	4	4	6
NOTES		1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2	
REF		11-585	11-585	11-585	11-585	11-660	11-660	11-660	11-779	
ISSUE		A	A	A	A	C	C	C	D	

TABLE 16

e=0.50mm PITCH									
SYMBOL \ VARIATION	VEGD	VFDD-1	VFDD-2	VFED-1	VFED-2	VFFD-1	VFFD-2	VGED-1	NOTE
	WEGD	WFDD-1	WFDD-2	WFED-1	WFED-2	WFFD-1	WFFD-2	WGED-1	
D BSC	3.00	3.50	3.50	3.50	3.50	3.50	3.50	4.00	
E BSC	4.00	2.50	2.50	3.00	3.00	3.50	3.50	3.00	
D1 BSC	2.75	3.25	3.25	3.25	3.25	3.25	3.25	3.75	
E1 BSC	3.75	2.25	2.25	2.75	2.75	3.25	3.25	2.75	
D2	MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	NOM	2.00	2.70	2.70	2.70	2.70	2.70	3.20	
	MAX	2.10	2.75	2.75	2.75	2.75	2.75	3.25	
E2	MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	NOM	2.20	1.10	1.10	1.60	1.60	2.10	1.60	
	MAX	2.30	1.15	1.15	1.65	1.65	2.15	1.65	
L	MIN	0.45	0.45	0.45	0.45	0.45	0.45	0.45	
	NOM	0.55	0.55	0.55	0.55	0.55	0.55	0.55	
	MAX	0.65	0.65	0.65	0.65	0.65	0.65	0.65	
N	10	10	12	10	12	10	12	10	3
ND	5	5	6	5	6	5	6	5	6
NOTES	1,2,13a	1,2,13b	1,2,13b	1,2,13b	1,2,13b	1,2	1,2	1,2,13b	
REF	11-585	11-585	11-585	11-585	11-585	11-585	11-585	11-585	
ISSUE	A	A	A	A	A	A	A	A	

TABLE 17

e=0.50mm PITCH									
SYMBOL \ VARIATION	VGED-2	VGED-3	VGED-4	VGGD-1	N/A	VGGD-2	N/A	VGGD-3	NOTE
	WGED-2	WGED-3	WGED-4	N/A	WGGD-1	N/A	WGGD-2	N/A	
D BSC	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	
E BSC	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	
D1 BSC	3.75	3.75	3.75	3.75	3.75	3.75	3.75	3.75	
E1 BSC	2.75	2.75	2.75	3.75	3.75	3.75	3.75	3.75	
D2	MIN	0.00	0.00	3.00	0.00	0.00	0.00	0.00	
	NOM	3.20	3.20	—	3.20	3.00	3.20	3.00	
	MAX	3.25	3.25	3.70	3.25	3.10	3.25	3.10	
E2	MIN	0.00	0.00	1.40	0.00	0.00	0.00	0.00	
	NOM	1.60	1.60	—	2.60	2.20	2.60	2.20	
	MAX	1.65	1.65	1.80	2.65	2.30	2.65	2.30	
L	MIN	0.45	0.45	0.30	0.45	0.45	0.45	0.45	
	NOM	0.55	0.55	0.40	0.55	0.55	0.55	0.55	
	MAX	0.65	0.65	0.50	0.65	0.65	0.65	0.65	
N	12	14	12	10	10	12	12	14	3
ND	6	7	6	5	5	6	6	7	6
NOTES	1,2,13b	1,2,13b	1,2,13b	1,2	1,2	1,2	1,2	1,2	
REF	11-585	11-585	11-660	11-585	11-585	11-585	11-585	11-585	
ISSUE	A	A	C	A	A	A	A	A	

TABLE 18

[e]=0.50mm PITCH										
VARIATION SYMBOL		N/A	VGJD	VJED-1	VJED-2	VJGD-1	VJGD-2	VJGD-3	VJJD-1	NOTE
		WGGD-3	WGJD	WJED-1	WJED-2	WJGD-1	WJGD-2	WJGD-3	N/A	
D BSC		4.00	4.00	5.00	5.00	5.00	5.00	5.00	5.00	
E BSC		4.00	5.00	3.00	3.00	4.00	4.00	4.00	5.00	
D1 BSC		3.75	3.75	4.75	4.75	4.75	4.75	4.75	4.75	
E1 BSC		3.75	4.75	2.75	2.75	3.75	3.75	3.75	4.75	
D2	MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	NOM	3.00	3.00	4.20	4.20	4.20	4.20	4.20	4.20	
	MAX	3.10	3.10	4.25	4.25	4.25	4.25	4.25	4.25	
E2	MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	NOM	2.20	3.20	1.60	1.60	2.60	2.60	2.60	3.60	
	MAX	2.30	3.30	1.65	1.65	2.65	2.65	2.65	3.65	
L	MIN	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	
	NOM	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	
	MAX	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	
N		14	14	16	18	14	16	18	16	3
ND		7	7	8	9	7	8	9	8	6
NOTES		1,2	1,2,13b	1,2,13b	1,2,13b	1,2,13b	1,2,13b	1,2,13b	1,2	
REF		11-585	11-585	11-585	11-585	11-585	11-585	11-585	11-585	
ISSUE		A	A	A	A	A	A	A	A	

TABLE 19

[e]=0.50mm PITCH										
VARIATION SYMBOL		N/A	VJJD-2	N/A	VLJD-1	VLJD-2				NOTE
		WJJD-1	N/A	WJJD-2	WLJD-1	WLJD-2				
D BSC		5.00	5.00	5.00	6.00	6.00				
E BSC		5.00	5.00	5.00	5.00	5.00				
D1 BSC		4.75	4.75	4.75	5.75	5.75				
E1 BSC		4.75	4.75	4.75	4.75	4.75				
D2	MIN	0.00	0.00	0.00	3.80	3.80				
	NOM	4.00	4.20	4.00	—	—				
	MAX	4.10	4.25	4.10	4.70	4.70				
E2	MIN	0.00	0.00	0.00	2.80	2.80				
	NOM	3.20	3.60	3.20	—	—				
	MAX	3.30	3.65	3.30	3.40	3.40				
L	MIN	0.45	0.45	0.45	0.45	0.45				
	NOM	0.55	0.55	0.55	0.55	0.55				
	MAX	0.65	0.65	0.65	0.65	0.65				
N		16	18	18	16	18				3
ND		8	9	9	8	9				6
NOTES		1,2	1,2	1,2	1,2,13b	1,2,13b				
REF		11-585	11-585	11-585	11-660	11-660				
ISSUE		A	A	A	C	C				

NOTES:

1. DIMENSIONING AND TOLERANCING CONFORM TO ASME Y14.5M-1994.
2. ALL DIMENSIONS ARE IN MILLIMETERS, θ IS IN DEGREES.
3. N IS THE TOTAL NUMBER OF TERMINALS.

4. THE TERMINAL #1 IDENTIFIER AND TERMINAL NUMBERING CONVENTION SHALL CONFORM TO JEP95 SEC. 3 SPP-012. DETAILS OF TERMINAL #1 IDENTIFIER ARE OPTIONAL, BUT MUST BE LOCATED WITHIN THE ZONE INDICATED. THE TERMINAL #1 IDENTIFIER MAY BE EITHER A MOLD, EMBEDDED METAL OR MARKED FEATURE.

5. DIMENSION b APPLIES TO METALLIZED TERMINAL AND IS MEASURED BETWEEN 0.15mm AND 0.30mm FROM TERMINAL TIP.

6. ND REFERS TO THE MAXIMUM NUMBER OF TERMINALS ON D SIDE.

7. DEPOPULATION IS POSSIBLE IN A SYMMETRICAL FASHION.
NON-SYMMETRIC DEPOPULATION ALLOWED ONLY ON PACKAGES WHERE $N \leq 6$.

8. VARIATION WEED-2 IS SHOWN FOR ILLUSTRATION ONLY.

9. A2, A3, D1 AND E1 ARE APPLICABLE ONLY WHEN PACKAGES ARE CONSTRUCTED PER FIGURE 2.

10. FOR A COMPLETE SET OF DIMENSIONS FOR EACH VARIATION, SEE THE INDIVIDUAL VARIATION AND THE COMMON DIMENSIONS AND TOLERANCES ON PAGE 4.

11. UNILATERAL COPLANARITY ZONE APPLIES TO THE EXPOSED HEAT SINK SLUG AS WELL AS THE TERMINALS.

12. SOME DIMENSIONS MAY NOT BE ACHIEVABLE WITH SHEARING (PUNCH) MANUFACTURE.

13. IN THE CASE OF THE RECTANGULAR PACKAGE, THE TERMINAL SIDE OF THE PACKAGE IS DETERMINED AS FOLLOWED:

- a) TYPE 1: THE TERMINALS ARE ON THE SHORT SIDE OF THE PACKAGE.
- b) TYPE 2: THE TERMINALS ARE ON THE LONG SIDE OF THE PACKAGE.

14. DEPENDING ON THE METHOD OF MANUFACTURING, A MAXIMUM 0.15mm PULL BACK (L1) MAYBE PRESENT.

15. IF PACKAGE IS MANUFACTURED WITH TERMINALS THAT EXTEND FROM THE PLASTIC BODY (L2), THEN THE PROFILE TOLERANCE [aaa] WILL BE APPLICABLE ONLY TO THE PLASTIC BODY AND NOT TO THE TERMINAL TIPS.

16. VARIOUS COMPANIES HAVE ISSUED PATENTS AND RELATED PATENT APPLICATIONS THAT MAY APPLY TO THIS REGISTRATION. IF THE CURRENT ISSUE PATENTS OR LATER PATENTS RESULTING FROM RELATED APPLICATIONS DO APPLY, THESE COMPANIES INTEND TO COMPLY WITH THE JEDEC PATENT POLICY AND LICENSE UNDER REASONABLE TERMS AND CONDITIONS THAT ARE DEMONSTRABLY FREE OF ANY UNFAIR DISCRIMINATION. REFERENCED PATENTS ARE AS FOLLOWS.

AMKOR TECHNOLOGY	U.S. PATENT – No. 6,143,981
ASAT	U.S. PATENTS – No. 6,229,200; 6,242,281; 6,294,100; 6,545,347; 6,585,905; 6,734,044; 6,940,154; 7,071,545; 7,091,581 & 7,247,526
NATIONAL SEMICONDUCTOR	U.S. PATENT No. 6,130,473

17. WHEN MORE THAN ONE VARIATION (OPTION) EXISTS FOR THE SAME PROFILE HEIGHT, BODY SIZE (DxE), AND PITCH, THEN THOSE VARIATIONS WILL BE DENOTED BY AN ADDITIONAL DASH NUMBER (i.e. -1, -2, etc) DESIGNATOR TO IDENTIFY THEM. THE NEW VARIATIONS WOULD BE CREATED FROM ALL OR ANY OF THE FOLLOWING REASONS: TERMINAL COUNT, TERMINAL LENGTH, AND/OR EXPOSED PAD SIZES.

Change Record

If the changes involves any words added or deleted (excluding deletion of accidentally repeated words), the change is included. Punctuation changes may or may not be included.

Initial Issue: A	Date: Jan. 2001	Item: 11.11-585
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Revision History:

Issue: D	Date: Nov. 2007	Item: 11.11-779
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Location	Change from:	Change to:
Tables 5 & 15	Existing	Add variations (V/WEED-7)
Tables 6 & 12	Existing	Add variations (V/WCED-3)
Tables 12-19	Existing	Re-Organize to fit additional variations stated above.
Table 2	(for 0.4mm pitch) aaa=0.15	aaa=0.10 (updated per design guide 4.8)
Table 3	A min= 0.80 for "V" profile	A min=>0.80 (Updated per SPP-017)
Note 16	Existing	Added new US patents for ASAT

Issue:	Date:	Item:
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Location	Change from:	Change to:

Issue:	Date:	Item:
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Location	Change from:	Change to: