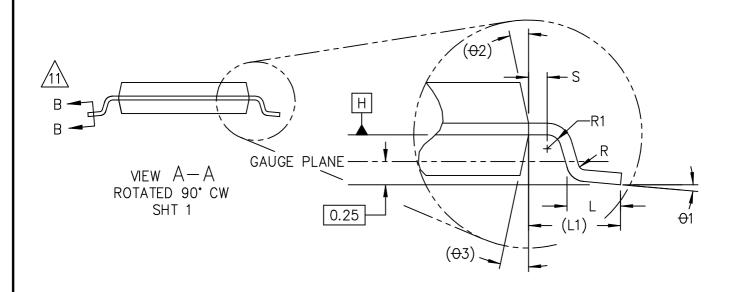


SECTION B-B



JEDEC	TITLE PLASTIC THIN SHRINK	ISSUE	DATE		SHEET
SOLID STATE PRODUCT OUTLINES	SMALL OUTLINE PACKAGE	F	05/01	MO-153	2 OF 18

					COMMON D	IMENSIONS	(MILLIMETE	RS)				
S Y						TSS0	Р					
М В О	0.65	mm LEAD F	PITCH	N O	0			N O	0			N O
L	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E
Α	_	_	1.20		_	_	1.20		_	_	1.20	
A2	0.80	1.00	1.05		0.80	1.00	1.05		0.80	1.00	1.05	
b	0.19	_	0.30	5	0.17	-	0.27	5	0.13	_	0.23	5
b1	0.19	0.22	0.25		0.17	0.20	0.23		0.13	0.16	0.19	
С	0.09	-	0.20		0.09	-	0.20		0.09	_	0.20	
c1	0.09	_	0.16		0.09	_	0.16		0.09	_	0.16	
е		0.65 BSC				0.50 BSC	•			0.40 BSC	,	
L	0.45	0.45 0.60 0.75			0.45	0.60	0.75		0.45	0.60	0.75	
L1		1.00 REF				1.00 REF				1.00 REF		
R	0.09	_	_		0.09	_	-		0.09	_	_	
R1	0.09	-	_		0.09	-	-		0.09	_	_	
S	0.20	-	_		0.20	-	-		0.20	_	_	
0 1	0	-	8		0	-	8		0	_	8	
0 2		12 REF				12 REF				12 REF		
0 3		12 REF				12 REF				12 REF		
aaa		0.10				0.10				0.08		
bbb		0.10				0.08				0.07		
ссс		0.05				0.05				0.05		
ddd		0.20				0.20				0.20		
NOTE	1,2				1,2				1,2			
REF	11-360	, 11–465			11-360, 11-465			11-360, 11-465				
ISSUE	Α				Α				Α			

JEDEC	TITLE PLASTIC THIN SHRINK	ISSUE	DATE		SHEET
SOLID STATE PRODUCT OUTLINES	SMALL OUTLINE PACKAGE	F	05/01	MO-153	3 OF 18

				VARIATION		
BODY WIDTH	LEAD PITCH	LEAD COUNT	STANDARD (TSSOP)	THERMALLY ENHANCED (HTSSOP		
4.40	0.65	8	AA	AAT		
		14	AB-1	ABT-1		
		16	AB	ABT		
		20	AC	ACT		
		24	AD	ADT		
		28	AE	AET		
	0.50	20	BA	BAT		
		24	BB	BBT		
		28	BC	ВСТ		
		30	BC-1	BCT-1		
		36	BD	BDT		
		38	BD-1	BDT-1		
		44	BE	BET		
		50	BF	BFT		
	0.40	14	SEE MO-	194 VARIATION AA/AAT 194 VARIATION AB/ABT		
		16	SEE MO-			
		20	SEE MO-	194 VARIATION AC/ACT		
		24	CA	CAT		
		32	СВ	CBT		
		36	СС	CCT		
		48	CD	CDT		
		56	SEE MO-	194 VARIATION AF/AFT		
6.10	0.65	24	DA	DAT		
		28	DB	DBT		
		30	DB-1	DBT-1		
		32	DC	DCT		
		36	DD	DDT		
		38	DD-1	DDT-1		
		40	DE	DET		
	0.50	28	EA	EAT		
		36	EB	EBT		
		40	EC	ECT		
		44	EC-1	ECT-1		
		48	ED	EDT		
		56	EE	EET		
		64	EF	EFT		
	0.40	36	FA	FAT		
		48	FB	FBT		
		52	FC	FCT		
		56	FD	FDT		
		64	FE	FET		
		80	FF	FFT		
		100	SEE MO-	194 VARIATION BB/BBT		

JEDEC	TITLE PLASTIC THIN SHRINK	ISSUE	DATE		SHEET
SOLID STATE PRODUCT OUTLINES	SMALL OUTLINE PACKAGE	F	05/01	MO-153	4 OF 18

		SUMMARY	TABLE - VARIATIONS	
DODY WIDTH	LEAD DITCH	LEAD COUNT		VARIATION
BODY WIDTH	LEAD PITCH	LEAD COUNT	STANDARD (TSSOP)	THERMALLY ENHANCED (HTSSOP)
8.00	0.65	28	GA	GAT
		32	GB	GBT
		36	GC	GCT
		40	GD	GDT
	0.50	36	HA	HAT
		40	HB	НВТ
		48	HC	нст
		56	HD	HDT
	0.40	48	JA	JAT
		52	JB	JBT
		56	JC	JCT
		60	JC-1	JCT-1
		64	JD	JDT
		68	JD-1	JDT-1

JEDEC	TITLE PLASTIC THIN SHRINK	ISSUE	DATE		SHEET
SOLID STATE PRODUCT OUTLINES	PLASTIC THIN SHRINK SMALL OUTLINE PACKAGE	F	05/01	MO-153	5 OF 18

S					STAND	ARD VARIAT	TONS (TSS	OP)					
SYMB		АА		N 0 T		AB-1		N O		AB		N O	
0	MIN	NOM	MAX	E	MIN	NOM	MAX	TE	MIN	NOM	MAX	T E	
A1	0.05	_	0.15		0.05	_	0.15		0.05	_	0.15		
D	2.90	3.00	3.10	3,9	4.90	5.00	5.10	3,9	4.90	5.00	5.10	3,9	
E		6.40 BSC			6.40 BSC				6.40 BSC				
[1	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	
e		0.65 BSC				0.65 BSC				0.65 BSC			
Λ	8 6,7 14						7		16		6,7		
EF	11-360 11-4								11-360)			
SUE	A C							Α					
		AC		N O	N AD				N AE			N O	
M B O L	MIN	NOM	MAX	- O T E	MIN	NOM	MAX	- 0 T E	MIN	NOM	MAX	O T E	
A1	0.05	_	0.15		0.05	_	0.15		0.05	_	0.15		
D	6.40	6.50	6.60	3,9	7.70	7.80	7.90	3,9	9.60	9.70	9.80	3,9	
Ξ		6.40 BSC	I			6.40 BSC				6.40 BSC			
1	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	
,		0.65 BSC	!			0.65 BSC				0.65 BSC			
Ν		20		6,7		24		6,7	28			6,7	
EF	11-360				11-360)			11-360)			
SUE	Α				Α				Α				
SYM		BA		N O T	STAND	DARD VARIAT	IONS (TSS	N		BC		N O	
B 0 L	MIN	NOM	MAX	T E				MIN	NOM	MAX	O T E		
A1	0.05	_	0.15		0.05	_	0.15		0.05	_	0.15		
D	4.90	5.00	5.10	3,9	6.40	6.50	6.60	3,9	7.70	7.80	7.90	3,9	
=		6.40 BSC			6.40 BSC				6.40 BSC				
Ξ1	4.30	4.40	4.50				4,9	4,9 4.30 4.40 4.50			4,9		
е		0.50 BSC				0.50 BSC				0.50 BSC			
	20			6,7			6,7	,7 28			7		
N			11-360			11-360			11-360				
N REF	11-360				11-360)			11-360)			

JEDEC	TITLE	PLASTIC THIN SHRINK	ISSUE	DATE		SHEET
SOLID STATE PRODUCT OUTLINES		SMALL OUTLINE PACKAGE	F	05/01	MO-153	6 OF 18

S					STAND	ARD VARIAT	IONS (TSS	OP)					
Y M B		BC-1		N O T		BD		NO		BD-1		N O	
O L	MIN	NOM	MAX	T E	MIN	NOM	MAX	O T E	MIN	NOM	MAX	0 T E	
A1	0.05	_	0.15		0.05	_	0.15		0.05	_	0.15		
D	7.70	7.80	7.90	3,9	9.60	9.70	9.80	3,9	9.60	9.70	9.80	3,9	
Е		6.40 BSC				6.40 BSC				6.40 BSC			
E1	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	
е		0.50 BSC				0.50 BSC				0.50 BSC			
N		30		6,7		36		7		38		6,7	
REF	11-491								11-491				
ISSUE	E A								E				
s					STAND	ARD VARIAT	IONS (TSS	OP)					
Y M B		BE		N O T E		BF		N O		СА	1	N 0 T	
O L	MIN	NOM	MAX	Ë	MIN	NOM	MAX	O T E	MIN	NOM	MAX	Ë	
A1	0.05	_	0.15		0.05	-	0.15		0.05	-	0.15		
D	10.90	11.00	11.10	3,9	12.40	12.50	12.60	3,9	4.90	5.00	5.10	3,9	
Ε		6.40 BSC				6.40 BSC				6.40 BSC			
E1	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	
е		0.50 BSC				0.50 BSC				0.40 BSC			
N		44		6,7		50		6,7		24		6,7	
REF	11-491				11-491				11-360				
ISSUE	E				E				Α				
s					STAND	ARD VARIAT	IONS (TSS	OP)					
Y M B		СВ		N O		CC		NO		CD		N O	
O L	MIN	NOM	MAX	E E	MIN	NOM	MAX	E E	MIN	NOM	мах	E E	
A1	0.05	-	0.15		0.05	-	0.15		0.05	_	0.15		
D	6.40	6.50	6.60	3,9	7.70	7.80	7.90	3,9	9.60	9.70	9.80	3,9	
E		6.40 BSC				6.40 BSC				6.40 BSC			
E1	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	
е		0.40 BSC				0.40 BSC				0.40 BSC		1	
N	.	32		6,7	4	36		6,7		48		6,7	
REF	11-360				11-360				11-360			1	
ISSUE	A				Α				Α				
	JEDEC), ,	TITLE	PLA	STIC TH	IN SHRIN	K	ISSUE	DATE	T	157	SHEE	ET
PRO	SOLID ST DUCT OL	JTLINES	,	SMALL	OUTLIN	IE PACK	AGE	F	05/0	1	-153	7 OF	⁻ 18

s					STAND	ARD VARIAT	IONS (TSS	OP)				
S Y M B		DA		N O		DB		N O		DB-1		N O
O L	MIN	NOM	MAX	O T E	MIN	NOM	MAX	ŤĒ	MIN	NOM	MAX	ŤE
A1	0.05	_	0.15		0.05	_	0.15		0.05	_	0.15	
D	7.70	7.80	7.90	3,9	9.60	9.70	9.80	3,9	9.60	9.70	9.80	3,9
Е		8.10 BSC				8.10 BSC		4,9		8.10 BSC		
E1	6.00	6.10	6.20 4,9 6.00 6.10 6.20						6.00	6.10	6.20	4,9
е		0.65 BSC				0.65 BSC				0.65 BSC		
N		24		6,7		28		7		30		6,7
REF ISSUE	11-360				11-360				11-441			
15502	A C											
s					STAND	ARD VARIAT	IONS (TSS	OP)				
Y M B	DC N DD							N 0 T		DD-1		N O T
0 [MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E
A1	0.05	_	0.15		0.05	_	0.15		0.05	_	0.15	
D	10.90	11.00	11.10	3,9						12.60	3,9	
Е		8.10 BSC				8.10 BSC 8.10 BSC 0 6.10 6.20 4,9 6.00 6.10 6.20						
E1	6.00	6.10	6.20	4,9 6.00 6.10 6.20					6.00	6.10	6.20	4,9
е		0.65 BSC 0.65 BSC								0.65 BSC		
N	44 700	32		6,7	44 700	36		7	44 404	38		6,7
REF ISSUE	11-360 A				11-360 A				11-491 E			1
s					STAND	ARD VARIAT	IONS (TSS	OP)				
Y M B		DE		N		EA		N O		EB		N O
O L	MIN	NOM	MAX	O T E	MIN	NOM	MAX	T E	MIN	NOM	MAX	T F E
A1	0.05	_	0.15		0.05	_	0.15		0.05	-	0.15	
D	13.90	14.00	14.10	3,9	7.70	7.80	7.90	3,9	9.60	9.70	9.80	3,9
Е		8.10 BSC				8.10 BSC				8.10 BSC		
E1	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9
е		0.65 BSC				0.50 BSC				0.50 BSC		
N	40 6,7 28							6,7		36		6,7
REF	11-360				11-360				11-360			
ISSUE	<u>A</u>				<u> </u>				A			
	JEDEC)	TITLE	PI A	STIC TH	IN SHRIN	ık T	ISSUE	DATE	<u> </u>		SHEET
PRO	SOLID ST DUCT OL	DLID STATE UCT OUTLINES THE PLASTIC THIN SHRING SMALL OUTLINE PACKA							05/01	MO-	-153	8 OF ²

S					STAND	ARD VARIAT	IONS (TSS	OP)				
Y M B O		EC		N O T		EC-1		N O T		ED		NO
O L	MIN	NOM	MAX	E E	MIN	NOM	MAX	T E	MIN	NOM	MAX	Ĕ
A1	0.05	_	0.15		0.05	_	0.15		0.05	_	0.15	
D	10.90	11.00	11.10	3,9	10.90	11.00	11.10	3,9	12.40	12.50	12.60	3,9
Ε		8.10 BSC				8.10 BSC						
E1	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9	6.00	6.20	4,9	
е		0.50 BSC				0.50 BSC				0.50 BSC		
N		40		7		44		6,7		48		6,7
REF	11-360				11-441				11-360			
ISSUE	A C								A			
s					STAND	ARD VARIAT	IONS (TSS	OP)				
S Y M B	EE N EF							N O		FA		N O
Ö	MIN	NOM	MAX	N O T E	MIN	NOM	MAX	0 T E	MIN	NOM	MAX	Ť
A1	0.05	_	0.15		0.05	-	0.15		0.05	-	0.15	
D	13.90	14.00	14.10	3,9	16.90	17.00	17.10	3,9	7.70	7.80	7.90	3,9
Е		8.10 BSC				8.10 BSC				8.10 BSC		
E1	6.00	6.10	6.20	4,9	6.00 6.10 6.20				6.00	6.10	6.20	4,9
е		0.50 BSC		0.50 BSC						0.40 BSC		
N		56			64		6,7		36		6,7	
REF	11-360				11-397				11-360			
ISSUE	A				В				A			
S Y					STAND	ARD VARIAT	IONS (TSS	OP)				
M B		FB		N O		FC		N O		FD		NO
O L	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	MIN	NOM	MAX	E E
A1	0.05	_	0.15		0.05	-	0.15		0.05	_	0.15	
D	9.60	9.70	9.80	3,9	10.90	11.00	11.10	3,9	12.40	12.50	12.60	3,9
E		8.10 BSC	1			8.10 BSC				8.10 BSC	1	
E1	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9
е		0.40 BSC				0.40 BSC				0.40 BSC		<u> </u>
N		48		6,7		52		6,7		56		6,7
REF	11-360				11-360				11-360			
ISSUE	A				A				A			
PRO	JEDEC SOLID STATE RODUCT OUTLINES TITLE PLASTIC THIN SHRINK SMALL OUTLINE PACKAGE						ISSUE F	05/0°	1 MO-	-153	SHEET 9 OF	

Y M B O L					STAND	ARD VARIAT	IONS (TSS	OP)					
A1		FE		N O T		FF		N O		GA		N O T	
	MIN	NOM	MAX	T E	MIN	NOM	MAX	0 T E	MIN	NOM	MAX	T E	
	0.05	-	0.15		0.05	-	0.15		0.05	_	0.15		
D	13.90	14.00	14.10	3,9	16.90	17.00	17.10	3,9	9.60	9.70	9.80	3,9	
Е		8.10 BSC				8.10 BSC				10.00 BSC			
E1	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9	7.90	8.00	8.10	4,9	
е		0.40 BSC				0.40 BSC				0.65 BSC			
N		64		6,7		80		6,7		28		6,7	
REF	11-360					11–397			11-360				
ISSUE	A B A												
s					STAND	ARD VARIAT	IONS (TSS	OP)					
Y M B		GB		N O		GC		N O T		GD		N O	
O L	MIN	NOM	MAX	O T E	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	
A1	0.05	_	0.15		0.05	_	0.15		0.05	_	0.15		
D	10.90	11.00	11.10	3,9	12.40	12.50	12.60	3,9	13.90	14.00	14.10	3,9	
E		10.00 BSC				10.00 BSC				10.00 BSC			
E1	7.90	8.00	8.10	4,9 7.90 8.00 8.10				4,9	7.90	8.00	8.10	4,9	
е		0.65 BSC		0.65 BSC						0.65 BSC			
N		32		6,7		36		6,7		40		6,7	
REF ISSUE	11-360 A				11-360 A				11-360 A				
					STAND	ARD VARIAT	IONS (TSS	 OP)					
S Y M		НА		Ň		HB		Ŋ		НС		Ň	
B 0	MIN	NOM	MAX	O T E	MIN	NOM	MAX	0 T E	MIN	NOM	MAX	0 T E	
L	0.05	_	0.15		0.05	_	0.15		0.05	_	0.15	+ -	
A1		9.70	9.80	3,9	10.90	11.00	11.10	3,9	12.40	12.50	12.60	3,9	
						10.00 BSC				10.00 BSC			
A1	9.60	10.00 BSC			7.00	8.00	8.10	4,9	7.90	8.00	8.10	4,9	
A1 D	7.90	10.00 BSC 8.00	8.10	4,9				ı	7.90 8.00 8.10 0.50 BSC				
A1 D E			8.10	4,9	7.90	0.50 BSC			48				
A1 D E E1		8.00	8.10	6,7	7.90	0.50 BSC 40		6,7				6,7	
A1 D E E1 e		8.00 0.50 BSC 36	8.10		11-360			6,7	11-360			6,7	

					STAND	ARD VARIAT	IONS (TSS	OP)				
S Y M B		HD		N O		JA		N O		JB		N O
O L	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	MIN	NOM	MAX	ŤE
A1	0.05	-	0.15		0.05	-	0.15		0.05	_	0.15	
D	13.90	14.00	14.10	3,9	9.60	9.70	9.80	3,9	10.90	11.00	11.10	3,9
E		10.00 BSC				10.00 BSC				10.00 BSC		
E1	7.90	8.00	8.10	4,9	7.90	8.00	8.10	4,9	7.90	8.00	8.10	4,9
е		0.50 BSC				0.40 BSC				0.40 BSC		
N		56		6,7		48		6,7		52		6,7
REF	11-360				11-360				11-360			
ISSUE	Α				Α				A			
S					STAND	ARD VARIAT	IONS (TSS	OP)				
Y M B		JC		N O		JC-1		N O		JD		N O
O L	MIN	NOM	MAX	Ť	MIN	NOM	MAX	Ť	MIN	NOM	MAX	T E
A1	0.05	_	0.15		0.05	-	0.15		0.05	_	0.15	
D	12.40	12.50	12.60	3,9	12.40	12.50	12.60	3,9	13.90	14.00	14.10	3,9
Е		10.00 BSC			10.00 BSC					10.00 BSC		
E1	7.90	8.00	8.10	4,9					7.90	8.00	8.10	4,9
е		0.40 BSC								0.40 BSC		
N		56		7		60		6,7		64		7
REF	11-360				11-441				11-360			
ISSUE	A				С				Α			
					CTAND	ADD VADIAT	IONIC (TCC	OD)				
S Y					STAND	ARD VARIAT	10112 (122	0P) T T				_
М В О		JD-1		N 0 T				N O T		ı		N O T
Ľ	MIN	NOM	MAX	Ė	MIN	NOM	MAX	Ė	MIN	NOM	MAX	Ė
A1	0.05	-	0.15									
D	13.90	14.00	14.10	3,9								
E	7.00	10.00 BSC	0.40	1						I	Γ	
E1	7.90	8.00	8.10	4,9						<u> </u>		+
e N		0.40 BSC 68		6,7								+
REF	11-441	00		0,7								+
ISSUE	C											+
			TITLE					ISSUE	DATE			CHEET
PRO	JEDEC SOLID ST DUCT OL	CATE JTLINES	TITLE			IIN SHRIN NE PACK		ISSUE F	05/01	MO-	-153	SHEET 11 OF 1

				THI	FRMALLY F	NHANCED V	'ARIATIONS	(HTSSO	P)				
S .							711(1)(110110		' /	ADT		T	
M B		AAT		N		ABT-1		N 0		ABT 		N 0 T	
O L	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	MIN	NOM	MAX	E E	
A1	0.00	_	0.15	14	0.00	-	0.15	14	0.00	-	0.15	14	
D	2.90	3.00	3.10	3,9	4.90	5.00	5.10	3,9	4.90	5.00	5.10	3,9	
D1	1.00	_	_	13	1.70	_	_	13	1.70	_	_	13	
E		6.40 BSC				6.40 BSC				6.40 BSC			
E1	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	
E2	1.50		_	13	1.50	-	_	13	1.50		_	13	
e		0.65 BSC		6.7		0.65 BSC		-		0.65 BSC		0.7	-
N	44 444	8		6,7	44 444	14		7	11 111	16		6,7	İ
REF ISSUE	11-441 C				11-441 C				11-441 C				l
ISSUE	C				C				<u> </u>				İ
L													
S				THI	ERMALLY E	NHANCED V	ARIATIONS	(HTSSO	P)				İ
Y		л О.Т				A D T				ΛГΤ		1	İ
M B		ACT		N 0		ADT		N 0		AET		N 0	İ
0 [MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	
A1	0.00	_	0.15	14	0.00	_	0.15	14	0.00	_	0.15	14	İ
D	6.40	6.50	6.60	3,9	7.70	7.80	7.90	3,9	9.60	9.70	9.80	3,9	İ
D1	2.20	_	_	13	2.70	-	_	13	3.30	-	-	13	İ
Е		6.40 BSC				6.40 BSC				6.40 BSC	•		İ
E1	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	
E2	1.50	-	-	13	1.50	-	-	13	1.50	-	_	13	
е		0.65 BSC				0.65 BSC				0.65 BSC			
N		20		6,7	24 6,7 28					6,7			
REF	11-441				11-441				11-441				
ISSUE	C				C				C				
S				THI	ERMALLY E	NHANCED V	ARIATIONS	(HTSSO	P)				
Y										DOT		T	
M B		BAT		N 0		BBT		N O		ВСТ		N O	İ
O L	MIN	NOM	MAX	T E	MIN	NOM	MAX	Ē	MIN	NOM	MAX	ŤE	
A1	0.00	_	0.15	14	0.00	_	0.15	14	0.00	_	0.15	14	1
D	4.90	5.00	5.10	3,9	6.40	6.50	6.60	3,9	7.70	7.80	7.90	3,9	1
D1	1.70	_	_	13	2.20	_	_	13	2.70	_	-	13	1
Е		6.40 BSC				6.40 BSC				6.40 BSC			<u> </u>
E1	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9]
E2	1.50	_	_	13	1.50	_	_	13	1.50	_	_	13	
е	0.50 BSC					0.50 BSC				0.50 BSC			
N		20			6,7 24			6,7		28		7	
REF	11-441				11-441				11-441				
ISSUE	С				С				С				<u> </u>
	JEDEC	<u> </u>	TITLE	DI 4	CTIO TII	IVI CLIDIA	11/	ISSUE	DATE			SHE	ΈT
PRO	SOLID ST DUCT OL	ATE				IN SHRIN NE PACK		F	05/01	MO-	-153	12 0	F 18
		• • = •											

				TH	FRMALLY F	NHANCED V	'ARIATIONS	(HTSSO	P)				
S Y		DOT 1					711(1)(110110		' /			T	
M B		BCT-1		NO		BDT		_ N _		BDT-1		N 0 T	
O L	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	MIN	NOM	MAX	E E	
A1	0.00	_	0.15	14	0.00	_	0.15	14	0.00	-	0.15	14	
D	7.70	7.80	7.90	3,9	9.60	9.70	9.80	3,9	9.60	9.70	9.80	3,9	
D1	2.70	_	_	13	3.30	-	_	13	3.30	_	_	13	
E		6.40 BSC		1.0		6.40 BSC		1.0		6.40 BSC		1.0	
E1	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	
E2 e	1.50	0 FO DCC	_	13	1.50	0 E0 DC0	-	13	1.50	0 F0 BCC	_	13	
N		0.50 BSC 30		6,7		0.50 BSC 36		7		0.50 BSC 38		6,7	
REF	11-491	30		0,7	11-441	30		/	11-491	30		0,7	
ISSUE	E				C T1 ++1				E				
10002													
													I
s				TH	ERMALLY E	NHANCED V	ARIATIONS	(HTSSO	P)				
Y M B		BET		N O		BFT		N O		CAT		N O	
O L	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	
A1	0.00	_	0.15	14	0.00	-	0.15	14	0.00	-	0.15	14	
D	10.90	11.00	11.10	3,9	12.40	12.50	12.60	3,9	4.90	5.00	5.10	3,9	
D1	3.80	_	_	13	4.30	_	_	13	1.70	_	_	13	
Е		6.40 BSC				6.40 BSC				6.40 BSC			
E1	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	
E2	1.50	_	-	13	1.50	-	-	13	1.50	_	_	13	
е		0.50 BSC				0.50 BSC				0.40 BSC			
N	44 404	44		6,7	44 404	50		6,7 24				6,7	
REF	11-491				11-491				11-441				
ISSUE	E				E				С				
ļ													1
s				TH	ERMALLY E	NHANCED V	ARIATIONS	(HTSSO	P)			_	
Y M		CBT		N		CCT		N		CDT		N	
В		1 001] 0				0			-	1 0	
O L	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	
A1	0.00		0.15	14	0.00	_	0.15	14	0.00	_	0.15	14	
D	6.40	6.50	6.60	3,9	7.70	7.80	7.90	3,9	9.60	9.70	9.80	3,9	
D1	2.20		_	13	2.70	_	_	13	3.30	_	_	13	
E		6.40 BSC				6.40 BSC			. = -	6.40 BSC		1	
E1	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	4.30	4.40	4.50	4,9	
E2	1.50	1.50		13	1.50	0.40.500	_	13	1.50	0.40.500	_	13	
e	0.40 BSC 32			6,7	0.40 BSC			6,7		0.40 BSC		6.7	
N REF	11_141	11–441			11-441	36		0,/	11-441	48		6,7	
ISSUE	C				C				C				
IJJUE	U				U								
			TIT! =				<u> </u>	100: :=	T 5			<u> </u>	
] ,	JEDEC		TITLE	PLA	STIC TH	IN SHRIN	ik	ISSUE	DATE	1	4 F 7	SHE	.Lľ
PRO	SOLID ST DUCT OL	AIL JTLINES				IE PACK		F	05/01	MO-	-153	13 0	F 18

s				THI	ERMALLY E	NHANCED V	'ARIATIONS	(HTSSO	P)				
Y M B		DAT		N O		DBT		N O		DBT-1		N O	
O [MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	
A1	0.00	_	0.15	14	0.00	-	0.15	14	0.00	_	0.15	14	
D	7.70	7.80	7.90	3,9	9.60	9.70	9.80	3,9	9.60	9.70	9.80	3,9	
D1	2.70	_	-	13	3.30	_	-	13	3.30	_	_	13	
E		8.10 BSC				8.10 BSC				8.10 BSC			
E1	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9	
E2	2.10	-	_	13	2.10	=	-	13	2.10	_	_	13	
е		0.65 BSC				0.65 BSC				0.65 BSC		<u> </u>	
N		24		6,7		28		7		30		6,7	
REF	11-441				11-441				11-441				
ISSUE	С				С				С				
								··					
s				IHI	-RMALLY E	NHANCED V	ARIA HONS	(HISSO	P)			1	
Y M B		DCT				DDT		N O		DDT-1		N O	
O L	MIN	NOM	MAX	E E	MIN	NOM	MAX	E E	MIN	NOM	MAX	T E	
A1	0.00	_	0.15	14	0.00	_	0.15	14	0.00	_	0.15	14	
D	10.90	11.00	11.10	3,9	12.40	12.50	12.60	3,9	12.40	12.50	12.60	3,9	
D1	3.80	_	-	13	4.30	_	ı	13	4.30	_	_	13	
Ε		8.10 BSC				8.10 BSC				8.10 BSC			
E1	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9	
E2	2.10	_	-	13	2.10	-	-	13	2.10	_	_	13	
е		0.65 BSC				0.65 BSC				0.65 BSC			
N		32		6,7		36						6,7	
REF	11-441				11-441				11-491				
ISSUE	С				С				E				
- 1				TUI		NHANCED V	A DI A TIONS	(UTCCO	D)				_
S Y					ENMALLIE		ARIATIONS	(птээо 	r)				
M B		DET		N 0		EAT		N O		EBT		N	
POL	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	
A1	0.00	_	0.15	14	0.00	_	0.15	14	0.00	_	0.15	14	1
D	13.90	14.00	14.10	3,9	7.70	7.80	7.90	3,9	9.60	9.70	9.80	3,9	
D1	4.90	_	_	13	2.70	_	_	13	3.30	_	-	13	
E		8.10 BSC	1			8.10 BSC				8.10 BSC			
E1	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9	
E2	2.10	_	_	13	2.10	-	_	13	2.10	_	_	13	
е	0.65 BSC		I			0.50 BSC				0.50 BSC			
N	40			6,7				6,7					
REF	11-441				11-441				11-441				
ISSUE	С				С				С				
												-1	
	JEDEC	; T	TITLE		CTIC TU	IN SHRIN	ı _k	ISSUE	DATE			SHE	ΈT
PRO	SOLID ST DUCT OL	ATE JTLINES				IN SHRIN IE PACK		F	05/01	MO-	-153	14 0	F 1

				THI	FRMALLY F	NHANCED V	'ARIATIONS	(HTSSO	P)				
S Y					LIMICIEL E		, 11 11 11 11 11 11 11 11 11 11 11 11 11		' /				
M B		ECT		N 0		ECT-1		N 0		EDT		N O	
O L	MIN	NOM	MAX	Ē	MIN	NOM	MAX	T E	MIN	NOM	мах	O T E	
A1	0.00	_	0.15	14	0.00	_	0.15	14	0.00	_	0.15	14	
D	10.90	11.00	11.10	3,9	10.90	11.00	11.10	3,9	12.40	12.50	12.60	3,9	
D1	3.80	_	_	13	3.80	_	_	13	4.30	_	_	13	
E		8.10 BSC				8.10 BSC				8.10 BSC			
E1	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9	
E2	2.10	-	_	13	2.10	-	_	13	2.10	-	_	13	
e V		0.50 BSC				0.50 BSC		6.7		0.50 BSC		0.7	
N	11 441	40		7	11 441	44		6,7	11 441	48		6,7	
REF ISSUE	11-441 C				11-441 C				11-441 C				
19905													
													ı
s				THI	ERMALLY E	NHANCED V	ARIATIONS	(HTSSO	P)				
Y		ГГТ		l ar		ГГТ				ГΛΤ			
M B		EET		N 0		EFT		N 0		FAT		N 0	
0 L	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	
A1	0.00	- 1	0.15	14	0.00	-	0.15	14	0.00	_	0.15	14	
D	13.90	14.00	14.10	3,9	16.90	17.00	17.10	3,9	7.70	7.80	7.90	3,9	
D1	4.90	_	_	13	5.90	_	_	13	2.70	-	_	13	
Ε		8.10 BSC				8.10 BSC				8.10 BSC	•		
E1	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9	
E2	2.10	_	1	13	2.10	_	ı	13	2.10	_	-	13	
е		0.50 BSC				0.50 BSC				0.40 BSC			
N		56		6,7		64		6,7		36		6,7	
REF	11-441				11-441				11-441				
ISSUE	С				С				С				
				THI	ERMALLY E	NHANCED V	ARIATIONS	(HTSSO	P)				
S I						ГОТ							
M B		FBT		N 0		FCT		N O		FDT		N O	
O L	MIN	NOM	MAX	Ē	MIN	NOM	MAX	Ť	MIN	NOM	MAX	ŤE	
A1	0.00	-	0.15	14	0.00	_	0.15	14	0.00	-	0.15	14	
D	9.60	9.70	9.80	3,9	10.90	11.00	11.10	3,9	12.40	12.50	12.60	3,9	
D1	3.30	_	_	13	3.80	_	_	13	4.30	_	-	13	
Ε		8.10 BSC				8.10 BSC				8.10 BSC			
E1	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9	
E2	2.10	_	_	13	2.10	_	_	13	2.10	_	_	13	
е		0.40 BSC				0.40 BSC				0.40 BSC			
N	48			6,7		52		6,7		56		6,7	
REF	11-441				11-441				11-441				
ISSUE	С				С				С				
L													
	JEDEC	<u>;</u>	TITLE	DI 4	CTIO TII	IVI CLIDIA	11/	ISSUE	DATE			SHE	EΤ
PRO	SOLID ST DUCT OL	ATE	!			IN SHRIN IE PACK		F	05/01	MO-	-153	15 0	F 18

S				THI	ERMALLY E	NHANCED V	ARIATIONS	(HTSSO	P)				
Y M B		FET		N O		FFT		N O		GAT		N O	
O L	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	MIN	NOM	MAX	Ē	
A1	0.00	_	0.15	14	0.00	_	0.15	14	0.00	_	0.15	14	
D	13.90	14.00	14.10	3,9	16.90	17.00	17.10	3,9	9.60	9.70	9.80	3,9	
D1	4.90	_	_	13	5.90	_	-	13	3.30	_	_	13	
Ε		8.10 BSC				8.10 BSC				10.00 BSC			
E1	6.00	6.10	6.20	4,9	6.00	6.10	6.20	4,9	7.90	8.00	8.10	4,9	
E2	2.10		_	13	2.10	_	_	13	2.80		_	13	
е		0.40 BSC				0.40 BSC				0.65 BSC			
N	44 444	64		6,7	44 444	80		6,7	44 444	28		6,7	-
REF	11-441				11-441				11-441				-
ISSUE	С				С				С				
				THI	FRMALLY F	NHANCED V	'ARIATIONS	(HTSSO	D)				
S Y					LINIALLI L	INTANCED V	ANIATIONS	111330	' /				ł
M B	GBT			N Q		GCT		N O		GDT	Г	N O	
0 L	MIN	NOM	MAX	E E	MIN	NOM	MAX	E E	MIN	NOM	MAX	T E	
A1	0.00	_	0.15	14	0.00	_	0.15	14	0.00	_	0.15	14	
D	10.90	11.00	11.10	3,9	12.40	12.50	12.60	3,9	13.90	14.00	14.10	3,9	
D1	4.90	_	_	13	4.30	_	_	13	4.90	-	_	13	
Ε		10.00 BSC				10.00 BSC				10.00 BSC			
E1	7.90	8.00	8.10	4,9	7.90	8.00	8.10	4,9	7.90	8.00	8.10	4,9	
E2	2.80		_	13	2.80	_	_	13	2.80	_	_	13	
е		0.65 BSC		0.7		0.65 BSC		0.7		0.65 BSC		6,7	
N	11 111	32		6,7	36				6,7 40				
REF ISSUE	11-441 C				11-441 C				C				ł
10001													
s				THI	ERMALLY E	NHANCED V	'ARIATIONS	(HTSSO	P)				
Y M B		HAT		N O		HBT		N O		HCT		N O	
O L	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	MIN	NOM	мах	T E	
A1	0.00	_	0.15	14	0.00	_	0.15	14	0.00	-	0.15	14	
D	9.60	9.70	9.80	3,9	10.90	11.00	11.10	3,9	12.40	12.50	12.60	3,9	
D1	3.30	_	_	13	3.80	_	_	13	5.90	_	_	13	
Ε		10.00 BSC				10.00 BSC				10.00 BSC			
E1	7.90	8.00	8.10	4,9	7.90	8.00	8.10	4,9	7.90	8.00	8.10	4,9	
E2	2.80			13	2.80	_	_	13	2.80	_	_	13	
е	0.50 BSC					0.50 BSC				0.50 BSC			
N	36			6,7		40		6,7		48		6,7	
REF	11-441				11-441				11-441				-
SSUE	С				С				С				
	JEDEC	<u> </u>	TITLE	DI *	CTIO TII	INI CLIDIN	IIZ T	ISSUE	DATE			SHE	EΤ
PRO	SOLID ST DUCT OL	ATE JTLINES	:			IN SHRIN IE PACK		F	05/01	MO-	-153	16 0	F 1

				ТШ	EDMALIV E	NHANCED V	'A DI A TIONS	(UTCC)	D)				
S Y					ENMALLIE		ARIATIONS	(11330	<u> </u>				
M B		HDT		N O		JAT		N O		JBT		N O	
O L	MIN	NOM	MAX	T E	MIN	NOM	MAX	T E	MIN	NOM	MAX	O T E	
A1	0.00	_	0.15	14	0.00	-	0.15	14	0.00	_	0.15	14	
D	13.90	14.00	14.10	3,9	9.60	9.70	9.80	3,9	10.90	11.00	11.10	3,9	
D1	4.90	_	_	13	3.30	_	_	13	3.80	_	_	13	
E		10.00 BSC				10.00 BSC				10.00 BSC		1	
E1	7.90	8.00	8.10	4,9	7.90	8.00	8.10	4,9	7.90	8.00	8.10	4,9	
E2	2.80	- DCC	_	13	2.80	- 0.40 DC0	-	13	2.80	- 0.40 DC0	_	13	
e N		0.50 BSC 56		6,7		0.40 BSC 48		6,7		0.40 BSC 52		6,7	
REF	11-441	- 30		0,7	11-441	40		0,7	11-441	52		0,7	
ISSUE	C				C				C				
								4	_ `				
s				TH	ERMALLY E	NHANCED V	'ARIATIONS	(HTSSO	P) 			1	
Y M B		JCT		NO		JCT-1		N O		JDT		N O	
L	MIN	NOM	MAX	E E	MIN	NOM	MAX	E	MIN	NOM	MAX	T E	
A1	0.00	_	0.15	14	0.00	_	0.15	14	0.00	_	0.15	14	
D	12.40	12.50	12.60	3,9	12.40	12.50	12.60	3,9	13.90	14.00	14.10	3,9	
D1	5.90	_	_	13	5.90	_	_	13	4.90	_	_	13	
E		10.00 BSC				10.00 BSC				10.00 BSC		1.0	
E1	7.90	8.00	8.10	4,9	7.90	8.00	8.10	4,9	7.90	8.00	8.10	4,9	
E2 e	2.80	0.40 BSC		13	2.80	0.40 BSC	_	13	2.80	0.40 BSC	_	13	
N		56		7		60		6,7		64		7	
REF	11-441			'-	11-441			0,7	11-441			'	
ISSUE	C				С				C				
								-					
				T⊔	FDMALLY F	NHANCED V	'A DI A TIONS	(HTSSU	D)				
SY				'''	LINWIALLI L	INTIANCED V	ANIAHONS	111330	' /				
М		JDT-1		N				N				N	
B 0				O T				 				- P	
	MIN	NOM	MAX	E	MIN	NOM	MAX	E	MIN	NOM	MAX	E	
A1	0.00	-	0.15	14									
D	13.90	14.00	14.10	3,9									
D1	4.90		-	13									
E		10.00 BSC											
E1	7.90	8.00	8.10	4,9									
E2	2.80		_	13									
e		0.40 BSC											
N	44 444	68		6,7									
REF	11-441												
ISSUE	С												
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	JEDEC) 	TITLE	PΙΔ	STIC TH	IN SHRIN	ık l	ISSUE	DATE			SHE	EΤ
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NOTES:

- 1. ALL DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
- 2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.



DIMENSION 'D' DOES NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS. MOLD FLASH, PROTRUSIONS OR GATE BURRS SHALL NOT EXCEED 0.15 PER SIDE.



DIMENSION 'E1' DOES NOT INCLUDE INTERLEAD FLASH OR PROTRUSION. INTERLEAD FLASH OR PROTRUSION SHALL NOT EXCEED 0.25 PER SIDE.



DIMENSION 'b' DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION SHALL BE 0.08 MM TOTAL IN EXCESS OF THE 'b' DIMENSION AT MAXIMUM MATERIAL CONDITION. DAMBAR CANNOT BE LOCATED ON THE LOWER RADIUS OF THE FOOT. MINIMUM SPACE BETWEEN PROTRUSION AND ADJACENT LEAD IS 0.07 MM.

- 6. 'N' IS THE MAXIMUM NUMBER OF TERMINAL POSITIONS FOR THE SPECIFIED PACKAGE LENGTH. DEPOPULATION IS ALLOWED, BUT ONLY UNDER THE FOLLOWING CONDITIONS:
 - A) DEPOPULATION MAY REDUCE 'N' BY INCREMENTS OF FOUR (4) LEADS ONLY
 - B) ONLY END LEADS MAY BE REMOVED
 - C) LEADS MUST BE SYMMETRICALLY ARRANGED WITH RESPECT TO DATUM A (SEE NOTE 10) TO AVOID ANY ARRAY SHIFTING.



TERMINAL NUMBERS ARE SHOWN FOR REFERENCE ONLY.



DATUMS A AND B TO BE DETERMINED AT DATUM PLANE H.



DIMENSIONS 'D' AND 'E1' TO BE DETERMINED AT DATUM PLANE H.



THIS DIMENSION APPLIES ONLY TO VARIATIONS WITH AN EVEN NUMBER OF LEADS PER SIDE. FOR VARIATIONS WITH AN ODD NUMBER OF LEADS PER SIDE, THE "CENTER" LEAD MUST BE COINCIDENT WITH THE PACKAGE CENTERLINE, DATUM A.



CROSS SECTION B-B TO BE DETERMINED AT 0.10 TO 0.25 MM FROM THE LEAD TIP.



DETAILS OF THE PIN 1 IDENTIFIER ARE OPTIONAL, BUT MUST BE LOCATED WITHIN THE ZONE INDICATED.



'D1' AND 'E2' MINIMUM DIMENSIONS OF THERMALLY ENHANCED TYPES ARE VARIABLES DEPENDING ON DEVICE FUNCTION (DIE PADDLE SIZE). 'D1' AND 'E2' MAXIMUM DIMENSIONS CAN BE EQUAL TO 'D/E1' MAXIMUM DIMENSIONS. END USER SHOULD VERIFY ACTUAL SIZE OF EXPOSED THERMAL PAD FOR SPECIFIC DEVICE APPLICATION.



AI IS DEFINED AS THE VERTICAL DISTANCE FROM THE SEATING PLANE TO THE LOWEST POINT ON THE PACKAGE BODY EXCLUDING THE LID AND OR THERMAL ENHANCEMENT ON CAVITY DOWN PACKAGE CONFIGURATIONS.

APPLICATION NOTE:



CAUTION SHOULD BE TAKEN DURING DESIGN, ASSEMBLY AND PROCESSING TO PREVENT DEPOSITED BOARD SOLDER FROM HOLDING THE LEADS UP OFF THE BOARD. THIS IS APPLICABLE TO THERMAL ENHANCED VARIATIONS WHERE "A1" DIMENSION IS ALLOWED TO BE ZERO.

JEDEC	TITLE PLASTIC THIN SHRINK	ISSUE	DATE		SHEET	l
SOLID STATE PRODUCT OUTLINES	SMALL OUTLINE PACKAGE	F	05/01	MO-153	18 OF 18	