

REV	POS	DESCRIPTION	DATE	BY	APPD
F	—	CHANGED LOGO	2008-04-29	MR. XJK/ XJK	
A	—	INITIAL RELEASE	—	—	

TOLERANCES (INCH/MM)		FINISHING	
FRACTION	±	SYMBOL	
DECIMALS	X		
	XX		
	XXX		
	XXXX		

MATERIAL	_____	QTY	_____
H R C	_____	SCALE	NTS
DESIGNED	_____	DATE	_____
DWN	MK KOK	DATE	_____
CHKD	CH WONG	DATE	_____
APPD	AH TAN	DATE	_____
DWG NO	PKGQSO001	REV	F

 Carssem Your Technology Partner		TITLE QSO P NARROW BODY PACKAGE OUTLINE	
REF : CUSTOMER SPECIFICATION		SHEET NO : 1 OF 3	

SYMBOL	QSOP 16LD	
	MIN	MAX
A	1.35	1.75
A1	0.10	0.25
A2	1.37	1.50
b	0.20	0.30
C	0.19	0.25
D	4.80	4.98
E	5.79	6.20
E1	3.81	3.99
e	0.635 BSC	
h	0.22	0.49
L	0.40	1.27
α	0 °	8 °
ZD	0.230 REF	

SYMBOL	QSOP 20LD	
	MIN	MAX
A	1.35	1.75
A1	0.10	0.25
A2	1.37	1.57
b	0.20	0.30
C	0.19	0.25
D	8.55	8.74
E	5.79	6.20
E1	3.81	3.99
e	0.635 BSC	
h	0.22	0.49
L	0.40	1.27
α	0 °	8 °
ZD	1.473 REF	

SYMBOL	QSOP 24LD	
	MIN	MAX
A	1.35	1.75
A1	0.10	0.25
A2	1.37	1.57
b	0.20	0.30
C	0.19	0.25
D	8.55	8.74
E	5.79	6.20
E1	3.81	3.99
e	0.635 BSC	
h	0.22	0.49
L	0.40	1.27
α	0 °	8 °
ZD	0.838 REF	

SYMBOL	QSOP 28LD	
	MIN	MAX
A	1.35	1.75
A1	0.10	0.25
A2	1.37	1.57
b	0.20	0.30
C	0.19	0.25
D	9.80	9.98
E	5.79	6.20
E1	3.81	3.99
e	0.635 BSC	
h	0.22	0.49
L	0.40	1.27
α	0 °	8 °
ZD	0.838 REF	

NOTES:

1. LEAD COPLANARITY SHOULD BE 0 TO 0.10MM (.004") MAX.
2. PACKAGE SURFACE FINISHING:
 - (2.1) TOP : MATTE (CHARMILLES#18~30).
 - (2.2) ALL SIDES : MATTE (CHARMILLES#18~30).
 - (2.3) BOTTOM : MATTE (CHARMILLES#18~30).
3. ALL DIMENSIONS EXCLUDING MOLD FLASHES AND END FLASH FROM THE PACKAGE BODY SHALL NOT EXCEED 0.25MM (.010") PER SIDE(D).
4. DIMENSION "b" DOES NOT INCLUDE DAMBAR PROTRUSION/INTRUSION BUT SOLDER COVERAGE.

TOLERANCES (INCH/MM)		FINISHING		MATERIAL		QTY		SCALE		NTS		TITLE	
FRACTIONAL		SYMBOL		DESIGNED		DATE		DATE		DATE		DATE	
DECIMALS		SYMBOL		DWN		DATE		DATE		DATE		DATE	
X		SYMBOL		CHD		DATE		DATE		DATE		DATE	
XX		SYMBOL		APPD		DATE		DATE		DATE		DATE	
XXX		SYMBOL		DVG NO		DATE		DATE		DATE		DATE	
XXXX		SYMBOL		PKGS0001		DATE		DATE		DATE		DATE	
ANGLE		SYMBOL		REV		DATE		DATE		DATE		DATE	
±		SYMBOL		F		DATE		DATE		DATE		DATE	
—		SYMBOL		SHEET NO :		DATE		DATE		DATE		DATE	
—		SYMBOL		2 OF 3		DATE		DATE		DATE		DATE	
—		SYMBOL		3		DATE		DATE		DATE		DATE	
—		SYMBOL		REV		DATE		DATE		DATE		DATE	
—		SYMBOL		F		DATE		DATE		DATE		DATE	
—		SYMBOL		SHEET NO :		DATE		DATE		DATE		DATE	
—		SYMBOL		2 OF 3		DATE		DATE		DATE		DATE	
—		SYMBOL		3		DATE		DATE		DATE		DATE	
—		SYMBOL		REV		DATE		DATE		DATE		DATE	
—		SYMBOL		F		DATE		DATE		DATE		DATE	
—		SYMBOL		SHEET NO :		DATE		DATE		DATE		DATE	
—		SYMBOL		2 OF 3		DATE		DATE		DATE		DATE	
—		SYMBOL		3		DATE		DATE		DATE		DATE	
—		SYMBOL		REV		DATE		DATE		DATE		DATE	
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—		SYMBOL		REV		DATE		DATE		DATE		DATE	
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—		SYMBOL		REV		DATE		DATE		DATE		DATE	
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—		SYMBOL		3		DATE		DATE		DATE		DATE	
—		SYMBOL		REV		DATE		DATE		DATE		DATE	
—		SYMBOL		F		DATE		DATE		DATE		DATE	
—		SYMBOL		SHEET NO :		DATE		DATE		DATE		DATE	
—		SYMBOL		2 OF 3		DATE		DATE		DATE		DATE	
—		SYMBOL		3		DATE		DATE		DATE		DATE	
—		SYMBOL		REV		DATE		DATE		DATE		DATE	
—		SYMBOL		F		DATE		DATE		DATE		DATE	
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—		SYMBOL		3		DATE		DATE		DATE		DATE	
—		SYMBOL		REV		DATE		DATE		DATE		DATE	
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—		SYMBOL		REV		DATE		DATE		DATE		DATE	
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—		SYMBOL		REV		DATE		DATE		DATE		DATE	
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—		SYMBOL		2 OF 3		DATE		DATE		DATE		DATE	
—		SYMBOL		3		DATE		DATE		DATE		DATE	
—		SYMBOL		REV		DATE		DATE		DATE		DATE	
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—		SYMBOL		3		DATE		DATE		DATE		DATE	
—		SYMBOL		REV		DATE		DATE		DATE		DATE	
—		SYMBOL		F		DATE		DATE		DATE		DATE	
—		SYMBOL		SHEET NO :		DATE		DATE		DATE		DATE	
—		SYMBOL		2 OF 3									

SYMBOL	Q SOP 16LD	
	MIN	MAX
A	.0532	.0688
A1	.0040	.0098
A2	.054	.059
b	.008	.012
C	.0075	.0098
D	.189	.196
E	.228	.244
E1	.150	.157
e	.025 BSC	
h	.009	.019
L	.016	.050
α	0 °	8 °
ZD	.009 REF	


SYMBOL	Q SOP 20LD	
	MIN	MAX
A	.0532	.0688
A1	.0040	.0098
A2	.054	.062
b	.008	.012
C	.0075	.0098
D	.337	.344
E	.228	.244
E1	.150	.157
e	.025 BSC	
h	.009	.019
L	.016	.050
α	0 °	8 °
ZD	.058 REF	

SYMBOL	Q SOP 24LD	
	MIN	MAX
A	.0532	.0688
A1	.0040	.0098
A2	.054	.062
b	.008	.012
C	.0075	.0098
D	.337	.344
E	.228	.244
E1	.150	.157
e	.025 BSC	
h	.009	.019
L	.016	.050
α	0 °	8 °
ZD	.033 REF	

SYMBOL	Q SOP 28LD	
	MIN	MAX
A	.0532	.0688
A1	.0040	.0098
A2	.054	.062
b	.008	.012
C	.0075	.0098
D	.386	.393
E	.228	.244
E1	.150	.157
e	.025 BSC	
h	.009	.019
L	.016	.050
α	0 °	8 °
ZD	.033 REF	

NOTES:

- LEAD COPLANARITY SHOULD BE 0 TO 0.10MM (.004") MAX.
- PACKAGE SURFACE FINISHING:
 - TOP : MATTE (CHARMILLES#18~30).
 - ALL SIDES : MATTE (CHARMILLES#18~30).
 - BOTTOM : MATTE (CHARMILLES#18~30).
- ALL DIMENSIONS EXCLUDING MOLD FLASHES AND END FLASH FROM THE PACKAGE BODY SHALL NOT EXCEED 0.25MM (.010") PER SIDE(D).
- DIMENSION "b" DOES NOT INCLUDE DAMBAR PROTRUSION/ INTRUSION BUT SOLDER COVERAGE.

TOLERANCES (INCH/MM)		FINISHING		MATERIAL		QTY		SCALE		NTS		 Carssem Your Technology Partner	
FRACTIONAL		SYMBOL		DESIGNED		DATE		TITLE		Q SOP NARROW BODY PACKAGE OUTLINE		REF : CUSTOMER SPECIFICATION	
DECIMALS		SYMBOL		DWN		DATE		MK KOK		DATE		SHEET NO : 3 OF 3	
ANGLE		SYMBOL		CHKD		DATE		CH WONG		DATE			
APPD		SYMBOL		APPD		DATE		AH TAN		DATE			
DESCRIPTION		SYMBOL		DWG NO		REV		PKGS0001		REV		F	
CHANGED LOGO		SYMBOL		DATE		REV		DATE		REV		F	
INITIAL RELEASE		SYMBOL		DATE		REV		DATE		REV		F	