



NTC thermistors for temperature measurement

*ODVV HQFDSVXODWHG VHQVRUV
VWDQGDUG W\SH

Series/Type: B57560G, B57560G1

7KH IROORZLQJ SURGXFWV SUHVHQRWZLWLRQV GDWD VKHHW

2 UGHULQJ & RGH	6 XEV	WLWXWH 3	URDGWQH' /	DMMR	6 KLS PHQW
% *	% *	:LWKGUDZ	20GHUV		

)RU IXUWKHU LQIRUPDWLRQ SOHDVH FRQWDFW LVRXZLGH D E V W
(RX LQ VHOHFWLQJ D VXLWDEOH VXEVWGXZKWH VDKH D GHUZRUK
SUHVHQWHG DW ZZZ HSRV FRP VDOHV

((3&26 \$* 5HSURGXFWLRQ SXEOLFDWLRQ DQG GDFWLQJ LQFORSRUHWK
LQIRUPDWLRQ FRQWDLQHG WKHUHLQ ZLWKRXE (3&26 SULRU H[SUHV FRQ

Applications

- 7HP SHUDWXUH PHDVXUHPHQW

Dimensional drawing

Features

- *ODVV HQFDSVXODWHG KHDW UHVLVWLYH DQG KLJKO\ VWDEOH

-)RU WHP SHUDWXUH PHDVXUHPHQW XS WR

° &

- /HDGV GXPHW ZLUHV FRSSHU FODG H₁ L ø0.3

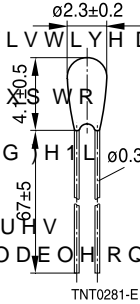
Options

- /HDGV QLFNHO SODWHG GXPHW ZLUHV

- \$OWHUQDWLYH GLPHQVLRQV DYDLODEOH RQ UHTXHVV

Delivery mode

%XON



'LPHQVLRQV LQ PP

General technical data

<p>&OLPDWLF FDWHJRU\ , (& OD[SRZHU ° DW 5HVLVWDQFH WROHUDQFH 5DWHG WHP SHUDWXUH 'LVVLSDWLRQ IDFWRU 7KHUPDO FRROLQJ WLPH FRQVW +HDW FDSDFLW\</p>	<p>3 D_{5s} 5 7_s d_w Q DL D_{QW} &_{WK}</p>	<p>± ± ± DSSUR[DISSUR[DSSUR[</p>	<p>P : ° & P : . V P - .</p>
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Temperature measurement

B57560G, B57560G1

Glass-encapsulated sensors

G560/G1560

Electrical specification and ordering codes

5 W	1 R RI 5 FKDUDF	7% W.HULVWL	% L F	% .	2 UGHULQJ FRGH
N			±		% *
N			±		% *
N			±		% *
N			±		% *
N				±	% *
N				±	% *
N				±	% *
N			±		% *
N			±		% *
N				±	% *
N			±		% *
N			±		% *
N				±	% *
N			±		% *
N			±		% *

5HVLVWDQFH WROHUDQFH

) ±

* ±

+ ±

7KH ODVW WKUHH GLJLWV RI WKH RUGHULQJ FRGH GHQRWH

DQG GXPHW ZLUHV

DQG QLFNHO SODWHG ZLUHV

%



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R/T characteristics

5 7 1 R	7002		7003		8304	
7 ° &	%		%		%	
	5 ₇ 5	a .	5 ₇ 5	a .	5 ₇ 5	a .



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5 7 1 R	7002		7003		8304	
7 ° &	%		%		%	
	5 ₇ 5	a .	5 ₇ 5	a .	5 ₇ 5	a .



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R/T characteristics

5 7 1 R	8307		8401		8402	
7 ° &	%		%		%	
	5 ₇ 5	a .	5 ₇ 5	a .	5 ₇ 5	a .



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5 7 1 R	8307		8401		8402	
7 ° &	%		%		%	
	5 ₇ 5	a .	5 ₇ 5	a .	5 ₇ 5	a .



Temperature measurement

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R/T characteristics

5 7 1 R	8403		8406		8415	
7 ° &	%		%		%	
	5 ₇ 5	a .	5 ₇ 5	a .	5 ₇ 5	a .



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5 7 1 R	8403		8406		8415	
7 ° &	%		%		%	
	5 ₇ 5	a .	5 ₇ 5	a .	5 ₇ 5	a .



Mounting instructions

1 Soldering

1.1 Leaded NTC thermistors

/HDGHG WKHUPLVWRUV FRPSO\ ZLWK WKH VROGHUDELOLW\ UHTX...
:KHQ VROGHULQJ FDUH PXVW EH WDNHQ WKDW WKH HIRHWKBYUP...
KHDW 7KH IROORZLQJ PD[LXP WHPSHUDWXUHV PDVLPQPHWLPHY...
WR EH REVHUYHG

Dip soldering Iron soldering

%DWK WHPSHUDWXUH ° & PDD[° &
6ROGHULQJ WLPH PD[V PD[V
'LVWDQFH IURP WKHUPLVWRU PLQ PP PLQ PP
8QGHU PRUH VHYHUH VROGHULQJ FRQGLWLRQV WKH UHVLVWDQFH

1.2 Leadless NTC thermistors

,Q FDVH RI 17 & WKHUPLVWRUV ZLWKRXW OHDGVKVRROGHULSU...
ZLWK D VROGHUDEOH PHWDOOL]DWLRQ 7KH WHPSHUDWXUR...
PD\SURGXFH ILQH FUDFNV LQ WKH FHUPLF UHVXOWLQJ LQ FKDG...
7R SUHYHQW OHDFKLQJ RI WKH PHWDOOL]DWLRQ WKRORZ ZLW...
VKRXOG EH XVHG ,Q DGGLWLRQ VROGHULQJFRSWKRIWV KR...
WLPHV

2 Clamp contacting

3UHVXUH FRQWDFWLQJ E\ PHDQV RI FODPSV LRSUWVFRQDQ...
VZLWFKLQJ DQG KLJK WXUQ RQ SRZHUV

3 Robustness of terminations (leaded types)

7KH OHDGV PHHW WKH UHTXLUHPHQWV RI (& FORVHTXWKBDQ...
IURP WKH VROGHU MRLQW RQ WKH WKHUPLVWRUJHEFGH...
WKURXJKV 'XULQJ EHQGLQJ DQ\ PHFKDQLDQ...
EHQGLQJ UDGLXV VKRXOG EH DW OHDVW PP

Table with 4 columns: Termination type, Temperature, Power, and Notes. Includes rows for /HDGV, Æ £ PP, and 7HVW 8D.



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%HQGLQJ VWUHQJWK 7H V W 8 E
 7ZR ° EHQGV LQ RSSRVLWH GLUHFWLRQV DW D ZHLJKV
 7RUVLRQDO VWUHQJWK 7H V W 8 F VHYHULW\
 7KH OHDG LV E B O W D E A L V W D Q F H R I W R P P I U R P W K H
 7KH EHQGLQJ UDGLXV RI WKH OHDGV VKRXOG E H D S S U
 ° H D F K V H Y H U L W \
 :KHQ VXEMHFWLQJ OHDGV WR PHFKDQLFDO V W U H G V W K H I R O O R Z

Tensile stress on leads

'XULQJ PRXQWLQJ DQG RSHUDWLRQ WHQVLUHQHGHUJFHV RQ WKH OH

Bending of leads

%HQGLQJ RI WKH OHDGV GLUHFWO\ RQ WKH WKHUPLVWRU ERG\ LV
 \$ OHDG PD\ EH EHQW DW D PLQLXP GLVWDQFH RI W E P F W K M K H R Z I G
 MRLQW RQ WKH WKHUPLVWRU ERG\ 'XULQJ EH Q G L Q J H W K B D W H W P
 7KH EHQGLQJ UDGLXV VKRXOG EH DW OHDVW P P

Twisting of leads

7KH WZLVWLQJ W R R U D L Q D S E H Q W S E H U P L V V L E O H D W P P I U R P W K
WKHUPLVWRU ERG\

4 Sealing and potting

:KHQ WKHUPLVWRUV DUH VHDOHG SRWWHG RU RY E V W R U C H G H G F D X K
 E\ WKHUPDO H[SDQVLRQ GXULQJ WKH SURGXFWLRQ S Q R S F G X V L G X
 ODWHU RSHUDWLRQ 7KH XSSHU FDWHJRU\ W R W S E H U H D W H H H H R G W K Q
 WKDW WKH PDWHULDQV XVHG VHDOLQJ S R O W D L Q J F F R F P S L F X O O G D Q

5 Cleaning

, I FOHDQLQJ LV QHFHVVDU\ PLOG FOHDQLQJ D D Q L Q V V D F R O L Q H
UHFPPHQGHG & OHDQLQJ DJHQWV EDVHG R Q L Z F A W H H D Q U E J R H W W K O
SHUPLVVLEOH

6 Storage

, Q R U G H U W R P D L Q W D L Q W K H L U V R O G H U D E L Q L F R U W R M U P H D W R P U V
 + X P L G L W \ W H P S H U D W X U H D Q G F R Q W D L Q H U P D W H U L D O V D U H F U L
 'R QRW VWRUH 60'V ZKHUH WKH\ DUH H[SRVHG W R K H D K H F S D G N U E F
 WHULDO PD\ EH GHIRUPHG RU 60'V PD\ VWLFN W R J H W K H Q J F S D W H L
 RSHQLQJ WKH IDFWRU\ VHDOV V X F K D V S R O \ Y L Q \ O Q E B D S R G \ S I D E F O N



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Cautions and warnings General

6 HH , PSRUWDQW QRWHV DW WKH HQG RI WKLW GRFXPHQW

Storage

- 6WRUH WKHUPLVWRUV RQO\ LQ RULJLQDO SDFNDJLQJ VWRUDJH
- 6WRUDJH FRQGLWLRQV LQ RULJLQDO SDFNDJLQJ VWRUDJH
- 'R QRW VWRUH WKHUPLVWRUV ZKHUH WKH\ DUHWHG RYHUHQWV WKH SDFNLQJ PDWHULDO PD\ EH GHIRUPHG RU FRPSRQHGO\ VVWQPRXQWLQJ
- \$YRLG FRQW DPLQDWLRQ RI WKHUPLVWRU VXUIDFH GXULQJ VWRUDJH
- \$YRLG VWRUDJH RI WKHUPLVWRUV LQ KDUPIXO HQYLUWV PHQWV
- 8VH WKH FRPSRQHQW DV VRRQ DV SRVVLEOH DIWHU RSHQLQJ WRSO\YLQ\O VHDHGH SDFNDJH
- 6ROGHU WKHUPLVWRUV ZLWKLQ WKH WLPH VSHFLILHG DIWHU VKR)RU OHDGHG FRPSRQHQWV WKLW LV PRQWKV IRU 60'V PRQW

Handling

- 17& WKHUPLVWRUV PXVW QRW EH GURSSHG & KLW RHF/RYUDJ\ RY GXULQJ KDQGOLQJ RI 17&V
- 'R QRW WRXFK FRPSRQHQWV ZLWK EDUH KDQGV *ORYHV DUH UH
- \$YRLG FRQW DPLQDWLRQ RI WKHUPLVWRU VXUIDFH GXULQJ KDQ

Bending / twisting leads

- \$ OHDG ZLUH PD\ EH EHQW DW D PLQLPXP GLVWISOXW RYUZRUV WKH FRPSRQHQW KHDG RU KRXLQJ :KHQ EH QFLOO\ UHOLHYWGH FRPSRQHQW KHDG RU KRXLQJ 7KH EHQGLQJ RYUDGLXV VKRXOGE
- 7ZLWLQJ WRUVRLOHHDG HQWSEHUPLVVLEOH DW PPIURP WKH WKHUPLVWRU ERG\

Soldering

- 8VH UHVLQ W\SH IOX[RU QRQ DFWLYDWHG IOX[
- ,QVXIIFLHQW SUHKHDWLQJ PD\FDXVH FHUPLF FUDFN
- 5DSLQ FRROLQJ E\ GLSSLQJ LQ VROYHQW LV QRW UHFRPPHQGHG
- &RPSOHWH UHPRYDO RI IOX[LV UHFRPPHQGHG



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Mounting

- (QVXUH WKDW QR WKHUPR PHFKDQLFDO VWUHV RFFXUV GXH W RYHUPROGLQJ SURFHVVHV ZKHQ WKHUPLVWRUV DUGJW B EHG : VXEVTXHQR RSHUDWLRQ 7KH PD[LXP WHPSHUDWLRQ WKH (QVXUH WKDW WKH PDWHULDORV XVHG VHDOLHULSRDWRULQFRFSP QHXWUDO
- (OHFWURGHV FRQWDFWV PXVW QRW EH VFUDWKFKHPRXQWGLDQDJH SURFHVV
- &RQWDFWV DQG KRXLVQJ XVHG IRU DVVHPEO\ ZLWKHPRXQWVHQBP
- (QVXUH WKDW DGMDFHQW PDWHULDORV DUH GHVRLBQDGLDORHWRU VXUIDFH WHPSHUDWXUH RI WKH WKHUPLVWRU %HWRXUHQWV ZLWKVWDQG WKH WHPSHUDWXUH
- \$YRLG FRQWDLQDWRQR RI WKH WKHUPLVWRU VXUIDFH GXULQJ
- 7KH FRQQHFWRQV RI VHQRUV H J FDEOH HQG\ ZHUHQHQH \$W DQ HQYLURQPHQW ZLWK QRUPDO DWPRVSKHULF FRGLWLRQV
- 7HQVLOH IRUFHV RQ FDEOHV RU OHGVR PXVW EH DWBRQHGXUL
- %HQGLQJ RU WZLVWLQJ RI FDEOHV RU OHGLWQRWBFWDLRQLVHQ
- \$YRLG XLVQJ FKHPLFDO VXEVDQFHV DV PRXQWLQWDLRWR, WKH OLTXLGV HQWHU WKH 17 & WKHUPLVWRUV HFJODKURZDKHSOEDWH VXEVDQFHV H J VRDS VXGV PXVW QRW EH XVHG DV PRXQWLQ

Operation

- 8VH WKHUPLVWRUV RQO\ ZLWKLQ WKH VSHFLILHG RSHUDWLQJ W 8VH WKHUPLVWRUV RQO\ ZLWKLQ WKH VSHFLILHG SRZHU UDQJH
- (YLURQPHQWDO FRGLWLRQV PXVW QRW KDUP WKH WKHUPLVWRU QRUPDO DWPRVSKHULF FRGLWLRQV RU ZLWKLQ WKH VSHFLILH
- &RQWDFW RI 17 & WKHUPLVWRUV ZLWK DQ\ OLRWLVG DWEXRREH HQH QVXUHG WKDW QR ZDWHU HQWHUV WKH 17 & WKHUPLVWRUV H J PHDVXUHPHQW SXUSRVHV FKHFNLQJ WKH VSHFLILHG HQWLVWD PXVW QRW EH LPPHUVHG LQ ZDWHU EXW LQ VXLWDEOH OLTXLGV
- \$YRLG GHZLQJ DQG FRQGHQVDWRQR XQOHVV WKHWRQRU LV V
- %HQGLQJ RU WZLVWLQJ RI FDEOHV DQG RUHZZLWLRQ RIRWKSHPQ WKH DSSOLFWRQR
- %HVXUH WR SURYLGH DQ DSSURSULDWH IDLO VDWXGDFWLRQ W FDXVHG E\ PDOIXQFWLRQ

7KLV OLVWLQJ GRHV QRW FODLP WR EH FRPSDHHQFH EKVRZHU\ O U



Temperature measurement

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Symbols and terms

6 \ PERO	(QJOLVK	* HUPDQ
\$	\$UHD)OIFKH
\$: *	\$PHULFDQ :LUH *DXJH	\$PHULNDQLVFKH 1RUP I•U 'UDKW
%	% YDOXH	% :HUW
%	% YDOXH GHWHUPLQHG E PHDVXUHPH ° &	% HVLVW DQFH WWHOW GXUFK :LG PHVVXQJHQ ° &
& _{WK}	+HDW FSDFLWDQFH	:IUPHNDSDJLWIW
,	&XUUHQW	6WURP
1	1XPEHU LQWHJHU	\$QJDKO JDQJ]DKOLJHU :HUW
3	0D[LPXP SRZH°LDW	0D[LPDOH /HLVW XQJ EHL
3 _{GLVV}	3RZHU GLVVLSDWLRQ	9HUOXVWOHLVWXQJ
3 _{HO}	(OHFWULFDO SRZHU	(OHNVULVFKH /HLVWXQJ
3 _{PD}	0D[LPXP SRZHU ZLWKLQ WHPSHUDWXUH UDQJH	0D[LPDOH /HLVWXQJ LP DQJHJHEHQHQ7HPSHUDWXUEHU
D5% 5%	5HVLVWDQFH WROHUDQFH VSUHDG RI % YDOXH	5HVLVWDQFH WROHUDQFH GLH G 6WUHXXQJ GHV % :HUWHV YHUX
5 _{LQV}	, QVXODWLRQ UHVLVWDQFH	, QVXODWLRQVZLGHUVWDQG
5 ₃	3DUDOOHO UHVLVWDQFH	3DUDOOHOZLGHUVWDQG
5 ₅	5DWHG UHVLVWDQFH	1HQQZLGHUVWDQG
D5 ₅ 5 ₅	5HVLVWDQFH WROHUDQFH	5HVLVWDQFH WROHUDQFH
5 ₆	6HULHV UHVLVWDQFH	6HULHQZLGHUVWDQG
5 ₇	5HVLVWDQFH DW WHPSHUDWXUH H J 5UHVLVWDQFH DW	5HVLVWDQFH WROHUDQFH EHL 7HPSHUDWXU] % 5 :LGHUVWDQGEHL
7	7HPSHUDWXUH	7HPSHUDWXU
D7	7HPSHUDWXUH WROHUDQFH	7HPSHUDWXUWROHUDQJ
W	7LPH	=HLW
7 _{\$}	\$PELHQW WHPSHUDWXUH	8PJHEXQJVWHPSHUDWXU
7 _{PD}	8SSHU FDWHJRU\ WHPSHUDWXUH	8SSHUFDWHJRU\ WHPSHUDWXU .DWHJRUHWHPSHUDWXU
7 _{PLQ}	/RZHU FDWHJRU\ WHPSHUDWXUH	8SSHUFDWHJRU\ WHPSHUDWXU .DWHJRUHWHPSHUDWXU
7 _{RS}	2SHUDWLQJ WHPSHUDWXUH	2SHUDWLQJ WHPSHUDWXU
7 ₅	5DWHG WHPSHUDWXUH	1HQQWHPSHUDWXU
7 _{VXU1}	6XUIDFH WHPSHUDWXUH	2EHUIOIFKHQWHPSHUDWXU
9	9ROWDJH	6SDQQXQJ
9 _{LQV}	, QVXODWLRQ WHVW YROWDJH	, QVXODWLRQVSU•IVSDQQXQJ
9 _{RS}	2SHUDWLQJ YROWDJH	%HWULHEVVSDQQXQJ
9 _{WHVW}	7HVW YROWDJH	3U•IVSDQQXQJ



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6 \ PERO	(QJOLVK	* HUPDQ
a	7 H P S H U D W X U H F R H I I L F L	7 H P S H U D W X U N R H I I L] L H Q W
D	7 R O H U D Q F H F K D Q J H	7 R O H U D Q] b Q G H U X Q J
d _{wk}	' L V V L S D W L R Q I D F W R U	: I U P H O H L W Z H U W
t _F	7 K H U P D O F R R O L Q J W L P H	7 K H U P D O F W H \$ E N • K O] H L W N R Q V V
t _D	7 K H U P D O W L P H F R Q V W D	7 K H U P L V F K H = H L W N R Q V W D Q W H

Abbreviations / Notes

6 \ PERO	(QJOLVK	* HUPDQ
SMD	6 X U I D F H P R X Q W H G G H Y L	6 X U I O I F K H Q P R Q W L H U E D U H V %
	7 R E H U H S O D F H G E \ D Q X P	7 R E H U H S O D F H G E \ D K O L P % H V
	F R G H V W \ S H G H V L J Q D W L	F R G H V W \ S H G H V L J Q D W L
	7 R E H U H S O D F H G E \ D O H V	7 R E H U H S O D F H G E \ D O H V
	\$ O O G L P H Q V L R Q V D U H J L	\$ O O G L P H Q V L R Q V D U H J L
	7 K H F R P P D V X V H G L Q Q X P	7 K H F R P P D V X V H G L Q Q X P
	G H Q R W H G H F L P D O S R L Q M	G H Q R W H G H F L P D O S R L Q M

