



## QVGQ2.E230531 Isolated Loop Circuit Protectors - Component

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### Isolated Loop Circuit Protectors - Component

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#### LITTELFUSE SEMICONDUCTOR (WUXI) CO LTD

E230531

3# Zhen Fa 6 Road  
Shuo Fang New District  
Wuxi, Jiangsu CHINA

**Thyristors, surface mount or axial, unidirectional or bi-directional, "3T Series"**, Model(s) 3T, followed by 064, 071, 080, 110, 130, 150 or 180, followed by ALC, ALL, BLC, BLL CLC or CLL.

3T, followed by 110, 130, 150, 180, 230, 260, 310, 350 or 400, followed by -A, -AI, -B, -BL, -C or -CL.

**Transient Voltage Surge Suppressor, "LCE Series"**, Model(s) LCE10A, LCE11A, LCE12A, LCE13A, LCE14A, LCE15A, LCE16A, LCE17A, LCE18A, LCE20A, LCE22A, LCE24A, LCE26A, LCE28A, LCE30A, LCE33A, LCE36A, LCE40A, LCE43A, LCE45A, LCE48A, LCE51A, LCE54A, LCE58A, LCE6.5A, LCE60A, LCE64A, LCE7.0A, LCE7.5A, LCE70A, LCE75A, LCE8.0A, LCE8.5A, LCE85A, LCE9.0A, LCE90A

**Transient Voltage Surge Suppressor, "SAC Series"**, Model(s) SAC10, SAC12, SAC15, SAC18, SAC22, SAC26, SAC30, SAC36, SAC45, SAC5.0, SAC50, SAC6.0, SAC7.0, SAC8.0, SAC8.5, SAC9.0

**Transient Voltage Surge Suppressor, "SACB Series"**, Model(s) SACB10\*, SACB12\*, SACB15\*, SACB18\*, SACB22\*, SACB26\*, SACB30\*, SACB36\*, SACB45\*, SACB5.0\*, SACB50\*, SACB6.0\*, SACB7.0\*, SACB8.0\*, SACB8.5\*

**Transient Voltage Surge Suppressor, "SMA6J Series"**, Model(s) SMA6J12A, SMA6J5.0A

**Transient Voltage Surge Suppressor**, Model(s) 1.5SMC, TP5SMC, TP1.5KE or 1.5KE, followed by 6.8, 7.5, 8.2, 9.1, 10, 11, 12, 13, 15, 16, 18, 20, 22, 24, 27, 30, 33, 36, 39, 43, 47, 51, 56, 62, 68, 75, 82, 91, 100, 110, 120\*\*, 130\*\*, 150\*\*, 160\*\*, 170\*\*, 180\*\*, 200\*\*, 220\*\*, 250\*\*, 300\*\*, 350\*\*, 400\*\* or 440\*\*, may be followed by A, C or CA.

15KPA or TP15KPA, followed by 17, 18, 20, 22, 24, 26, 28, 30, 33, 36, 40, 43, 45, 48, 51, 54, 58, 60, 64, 70, 75, 78, 85, 90, 100, 110, 120, 130, 150, 160, 170, 180, 200, 220, 240, 260 or 280, may be followed by A, C or CA.

1KSMB, followed by 6.8, 7.5, 8.2, 9.1, 10, 11, 12, 13, 15, 16, 18, 20, 22, 24, 27, 30, 33, 36, 39, 43, 47, 51, 56, 62, 68, 75, 82\*\*, 91\*\*, 100\*\*, 110\*\*, 120\*\*, 130\*\*, 150\*\*, 160\*\*, 170\*\* or 180\*\*, may be followed by A, C or CA.

20KPA or TP20KPA, followed by 20, 24, 26, 28, 30, 32, 34, 36, 40, 44, 48, 52, 56, 60, 64, 68, 72, 80, 88, 96, 104, 112, 120, 132, 144, 160, 172, 180, 192, 204, 216, 232, 240, 256, 280 or 300, may be followed by A, C or CA.

30KPA or TP30KPA, followed by 28, 30, 33, 36, 39, 42, 43, 45, 48, 51, 54, 58, 60, 64, 66, 70, 71, 72, 75, 78, 84, 90, 96, 102, 108, 120, 132, 144, 150, 156, 160, 168, 170, 180, 198, 216, 240, 232, 258, 260, 270, 280, 288 or 300, may be followed by A, C or CA.

3KP or TP3KP, followed by 5.0, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 22, 24, 26, 28, 30, 33, 36, 40, 43, 45, 48, 51, 54, 58, 60, 64, 70, 75, 78, 85, 90, 100, 110, 120, 130, 150, 160, 170, 180, 200 or 220, may be followed by A, C or CA.

4.0SMDJ, followed by 12, 13, 14, 15, 16, 17, 18, 20, 22, 24, 26, 28, 30, 33, 36, 40, 43 or 45, 48, 51, 54, 58, 60, 64, 70, 75, 78, 85, 91, 100, 110, 120, 130, 150, 160 or 170, may be followed by A, C or CA.

5.0SMDJ or TP5KSMD, followed by 12, 13, 14, 15, 16, 17, 18, 20, 22, 24, 26, 28, 30, 33, 36, 40, 43 or 45, 48, 51, 54, 58, 60, 64, 70, 75, 78, 85, 90, 100, 110, 120, 130, 150, 160 or 170, may be followed by A, C or CA.

5KP or TP5KP, followed by 5.0, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 22, 24, 26, 28, 30, 33, 36, 40, 43, 45, 48, 51, 54, 58, 60, 64, 70, 75, 78, 85, 90, 100, 110, 120, 130, 150, 160, 170, 180, 200, 220 or 250, may be followed by A, C or CA.

BZW04, may be followed by P, followed by 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 19, 20 or 23, may be followed by V, B or VB.

P4SMA, TP4SMA, TP4KE or P4KE, followed by 6.8, 7.5, 8.2, 9.1, 10, 11, 12, 13, 15, 16, 18, 20, 22, 24, 27, 30, 33\*\*, 36\*\*, 39\*\*, 43\*\*, 47\*\*, 51\*\*, 56\*\*, 62\*\*, 68\*\*, 75\*\*, 82\*\*, 91\*\*, 100\*\*, 110\*\*, 120\*\*, 130\*\*, 150\*\*, 160\*\*, 170\*\*, 180\*\*, 200\*\*, 220\*\*, 250\*\*, 300\*\*, 350\*\*, 400\*\* or 440\*\*, may be followed by A, C or CA.

170\*\*, 180\*\* or 200\*\*, may be followed by A, C or CA.

P6SMB, TPSMB, TP6KE or P6KE, followed by 6.8, 7.5, 8.2, 9.1, 10, 11, 12, 13, 15, 16, 18, 20, 22, 24, 27, 30, 33, 36, 39, 43, 47\*\*, 51\*\*, 56\*\*, 62\*\*, 68\*\*, 75\*\*, 82\*\*, 91\*\*, 100\*\*, 110\*\*, 120\*\*, 130\*\*, 150\*\*, 160\*\*, 170\*\*, 180\*\*, 200\*\*, 220\*\*, 250\*\* or 300\*\*, may be followed by A, C or CA.

SA or TPSA, followed by 5.0, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 22, 24, 26, 28, 30, 33, 36, 40, 43, 45, 48, 51, 54, 58, 60, 64, 70, 75, 78, 85, 90, 100, 110, 120, 130, 150, 160, 170 or 180, may be followed by A, C or CA .

SLD, TLP, or TLPA followed by 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 22, 24, 26, 28, 30, 33, 36, 40, 43, 45, 48, 51, 54, 58, 60, 64, 70, 75, 78, 85 or 90, may be followed U, followed by -017 or -018.

SLD8S, followed by 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 22, 24, 26, 27, 28, 30, 33, 36, 40, 43, 45, 48, 51, 54, 57, 58, 60, 64, 70, 75, 78, 85 or 90, may be followed by A or CA.

SMA6L10A, SMA6L11A, SMA6L12A, SMA6L13A, SMA6L14A, SMA6L15A, SMA6L16A, SMA6L17A, SMA6L18A, SMA6L20A, SMA6L22A, SMA6L24A, SMA6L26A, SMA6L28A, SMA6L30A, SMA6L33A, SMA6L36A, SMA6L40A, SMA6L43A, SMA6L45A, SMA6L48A, SMA6L5.0A, SMA6L51A, SMA6L54A, SMA6L58A, SMA6L6.0A, SMA6L6.5A, SMA6L60A, SMA6L64A, SMA6L7.0A, SMA6L7.5A, SMA6L70A, SMA6L75A, SMA6L78A, SMA6L8.0A, SMA6L8.5A, SMA6L85A, SMA6L9.0A

SMAJ, followed by 5.0, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 22, 24, 26\*\*, 28\*\*, 30\*\*, 33\*\*, 36\*\*, 40\*\*, 43\*\*, 45\*\*, 48\*\*, 51\*\*, 54\*\*, 58\*\*, 60\*\*, 64\*\*, 70\*\*, 75\*\*, 78\*\*, 85\*\*, 90\*\*, 100\*\*, 110\*\*, 120\*\*, 130\*\*, 150\*\*, 160\*\* or 170\*\*, may be followed by A, C or CA. (\*c)

SMBJ, followed by 5.0, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 22, 24, 26, 28, 30, 33, 36, 40\*\*, 43\*\*, 45\*\*, 48\*\*, 51\*\*, 54\*\*, 58\*\*, 60\*\*, 64\*\*, 70\*\*, 75\*\*, 78\*\*, 85\*\*, 90\*\*, 100\*\*, 110\*\*, 120\*\*, 130\*\*, 150\*\*, 160\*\*, 170\*\*, 180\*\*, 188\*\*, 200\*\*, 220\*\* or 250\*\*, may be followed by A, C or CA. (\*d)

SMCG or TPSMCG, followed by 5.0, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 22, 24, 26, 28, 30, 33, 34, 40, 43, 45, 48, 51, 54, 58, 60, 64, 70, 75, 78, 85, 90, 100\*\*, 110\*\*, 120\*\*, 130\*\*, 150\*\*, 160\*\* or 170\*\*, followed by A-HR or CA-HR. (\*e)

SMCJ, followed by 5.0, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 22, 24, 26, 28, 30, 33, 36, 40, 43, 45, 48, 51, 54, 58, 60, 64, 70, 75, 78, 85, 90, 100\*\*, 110\*\*, 120\*\*, 130\*\*, 150\*\*, 160\*\*, 170\*\*, 180\*\*, 200\*\*, 220\*\*, 250\*\*, 300\*\*, 350\*\*, 400\*\* or 440\*\*, may be followed by A, C or CA. (\*a)

SMDJ or TPSMD, followed by 5.0, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 22, 24, 26, 28, 30, 33, 36, 40, 43, 45, 48, 51, 54, 58, 60, 64, 70, 75, 78, 85, 90, 100, 110, 120, 130, 150, 160, 170, 180, 200, 220, 250, 300, 350, 400 or 440, may be followed by A, C or CA.

SMF10A, SMF11A, SMF12A, SMF13A, SMF14A, SMF15A, SMF16A, SMF17A, SMF18A, SMF20A, SMF22A, SMF24A, SMF26A, SMF28A, SMF30A, SMF33A, SMF36A, SMF40A, SMF43A, SMF45A, SMF48A

SMF4L followed by 5.0, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 22, 24, 26\*\*, 28\*\*, 30\*\*, 33\*\*, 36\*\*, 40\*\*, 43\*\*, 45\*\*, 48\*\*, 51\*\*, 54\*\*, 58\*\*, 60\*\*, 64\*\*, 70\*\*, 75\*\*, 78\*\*, 85\*\*, 90\*\*, 100\*\*, 110\*\*, 120\*\*, 130\*\*, 150\*\*, 160\*\* or 170\*\*, may be followed by A, C or CA. All the above mentioned part numbers may be preceded by prefixes or followed by suffixes for customer requirements. (\*b)

SMF5.0A, SMF51A, SMF54A, SMF6.0A, SMF6.5A, SMF7.0A, SMF7.5A, SMF8.0A, SMF8.5A, SMF9.0A

#### **TVS Diode, Model(s) SMF3.3\*\***

\*\* - These components may experience a voltage breakdown level outside of its rated voltage breakdown range, including a short circuit condition, if subjected to a 10 x 1000  $\mu$ s lightning waveform event having a minimum of 10 A peak current.

\*a - Part Nos. SMCJ100 - SMCJ440 may experience a voltage breakdown level outside of their rated voltage breakdown range, including a short circuit condition, if subjected to a 10 x 1000  $\mu$ s lightning waveform event having a minimum of a 10 A peak current.


\*b - Part Nos. SMF4L26 - SMF4L170 may experience a voltage breakdown level outside of their rated voltage breakdown range, including a short circuit condition, if subjected to a 10 x 1000  $\mu$ s lightning waveform event having a minimum of a 10 A peak current.

\*C - SMAJ26 - SMAJ170 may experience a voltage breakdown level outside of their rated voltage breakdown range, including a short circuit condition, if subjected to a 10 x 1000  $\mu$ s lightning waveform event having a minimum of a 10 A peak current.

\*d - Part Nos. SMBJ40 - SMBJ250 may experience a voltage breakdown level outside of their rated voltage breakdown range, including a short circuit condition, if subjected to a 10 x 1000  $\mu$ s lightning waveform event having a minimum of a 10 A peak current.

\*e - Part Nos. SMCG or TPSMCG100 - SMCG or TPSMCG400 may experience a voltage breakdown level outside of their rated voltage breakdown range, including a short circuit condition, if subjected to a 10 x 1000  $\mu$ s lightning waveform event having a minimum of a 10 A peak current.

Note - Models may be followed by suffixes to denote packaging color code and customer requirements.

Marking: Company name, model designation, and the Recognized Component Mark,  .

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