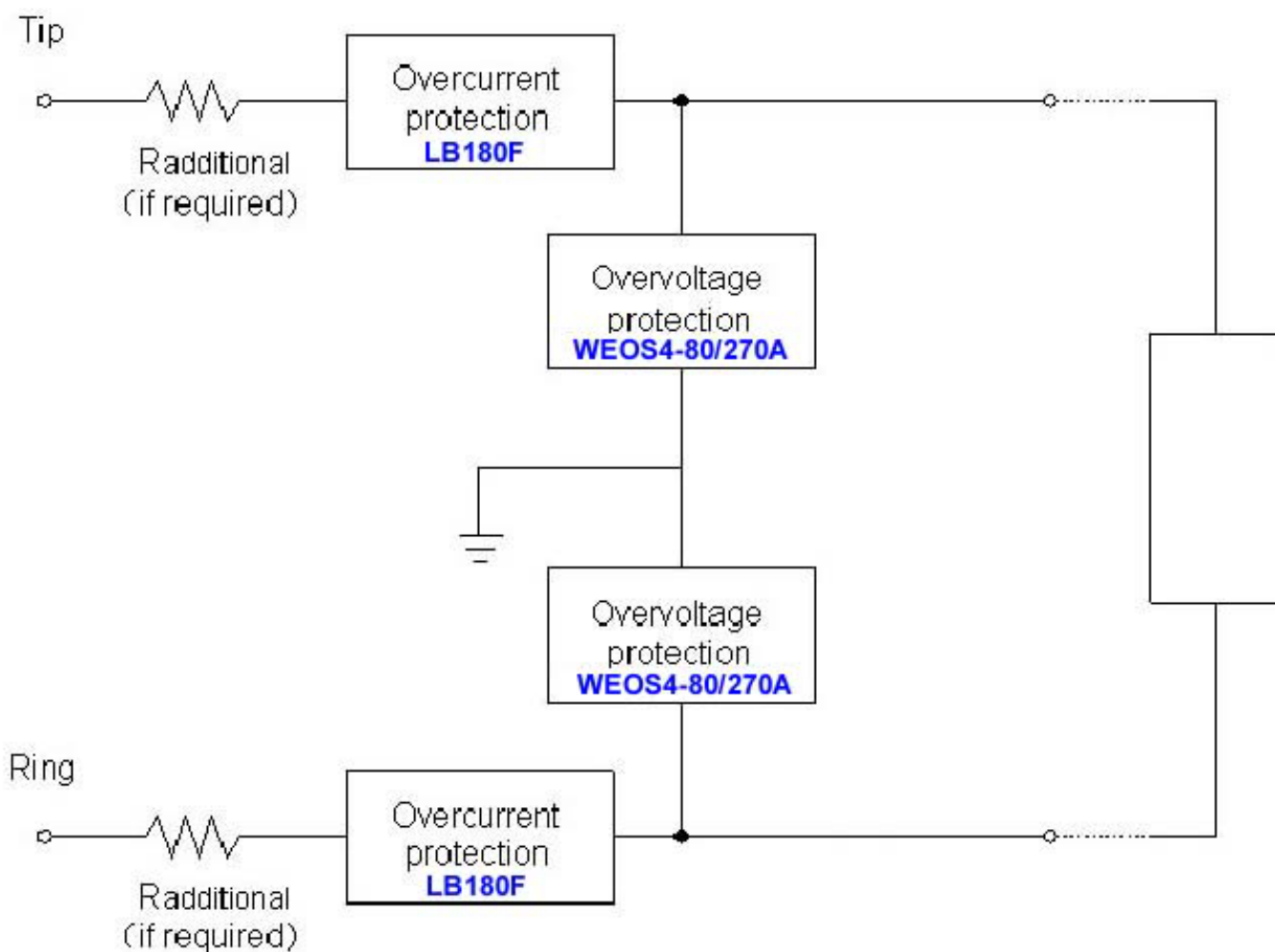


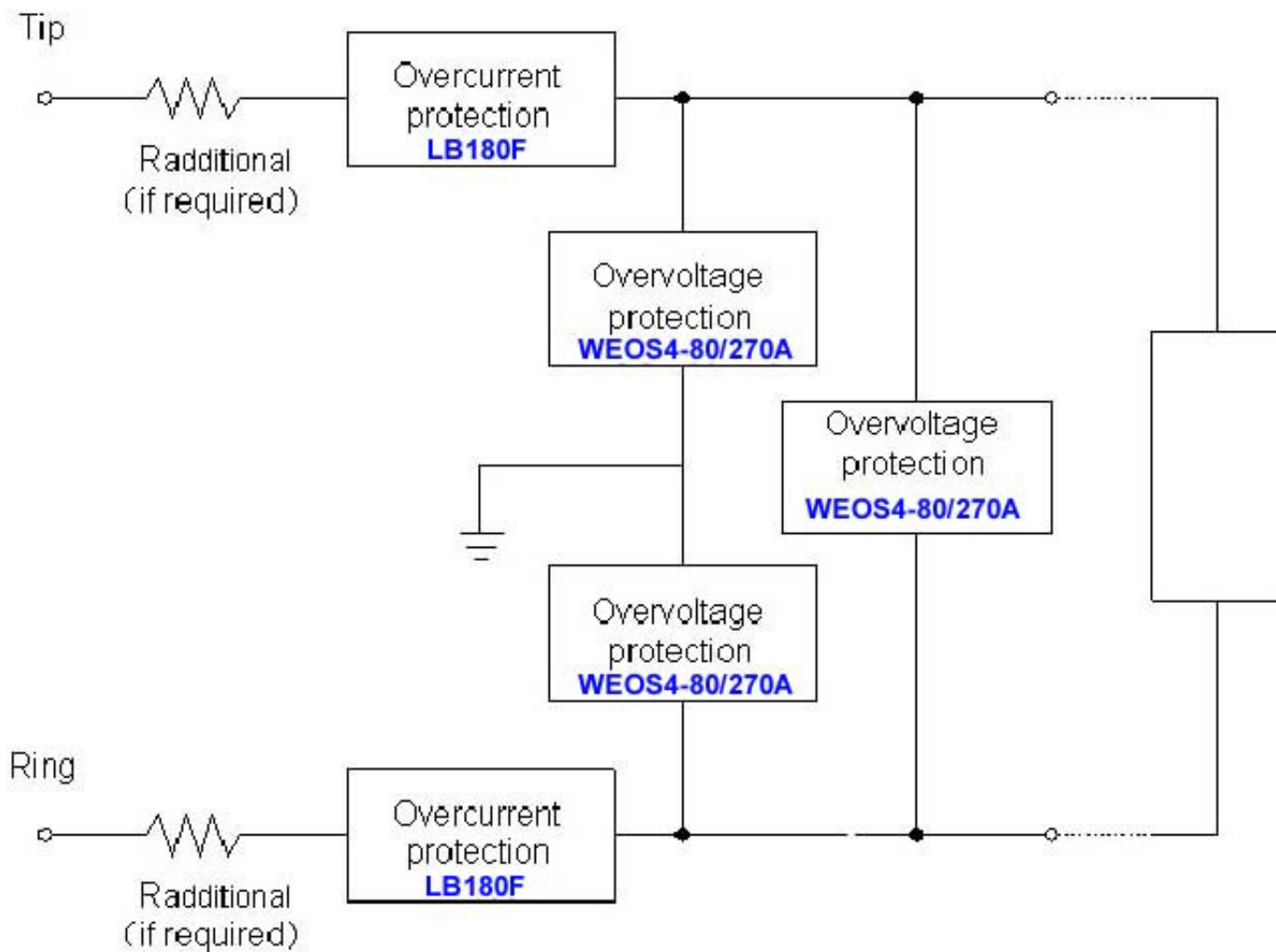
Let's **Make**
electronics *Safer!*

**---Telcom Protection Solution
(Switch & XDSL)**

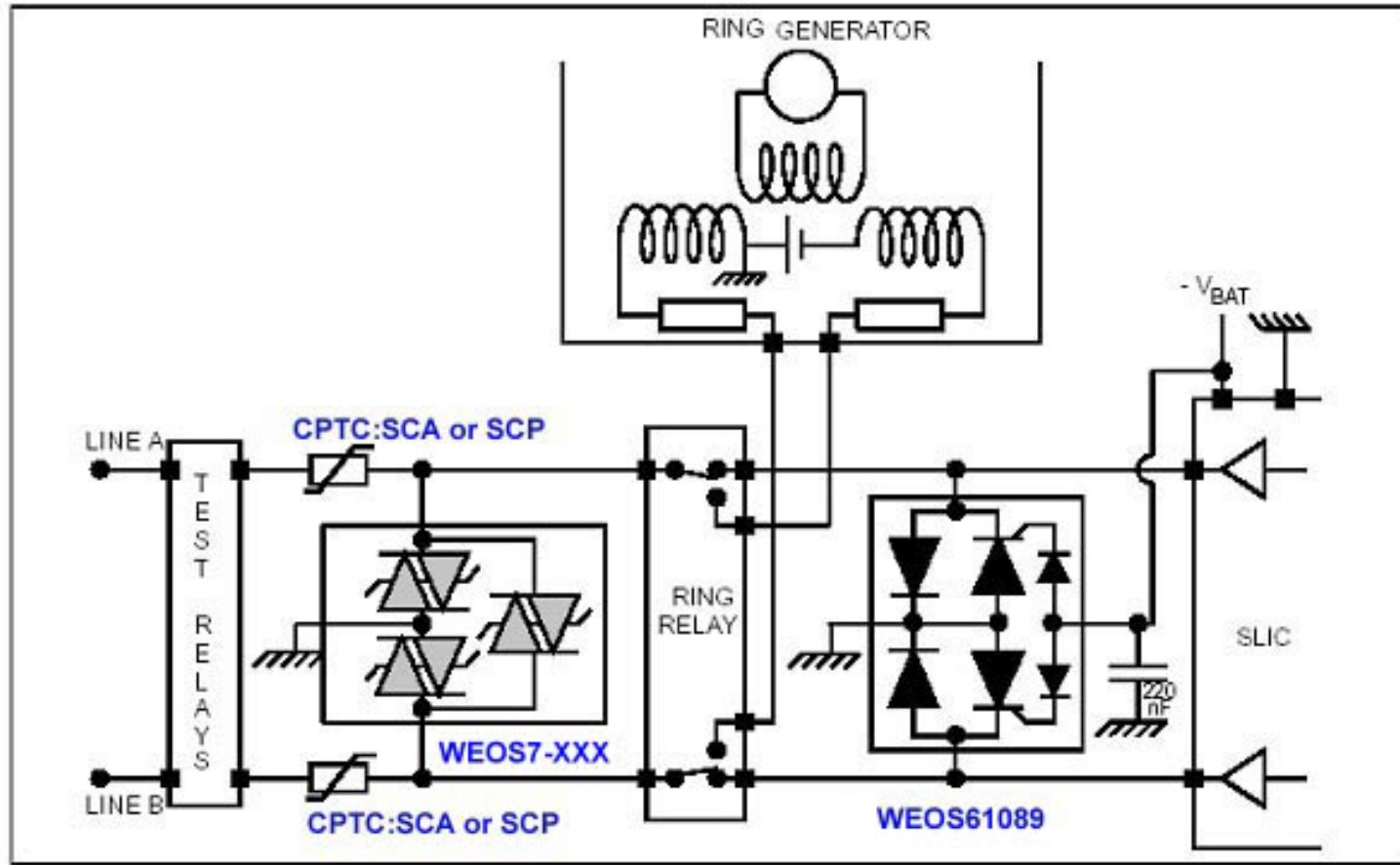
Solution for Huawei (XDSL)



Solution for D-link(XDSL)



Solution for Fujitsu(Swithes)

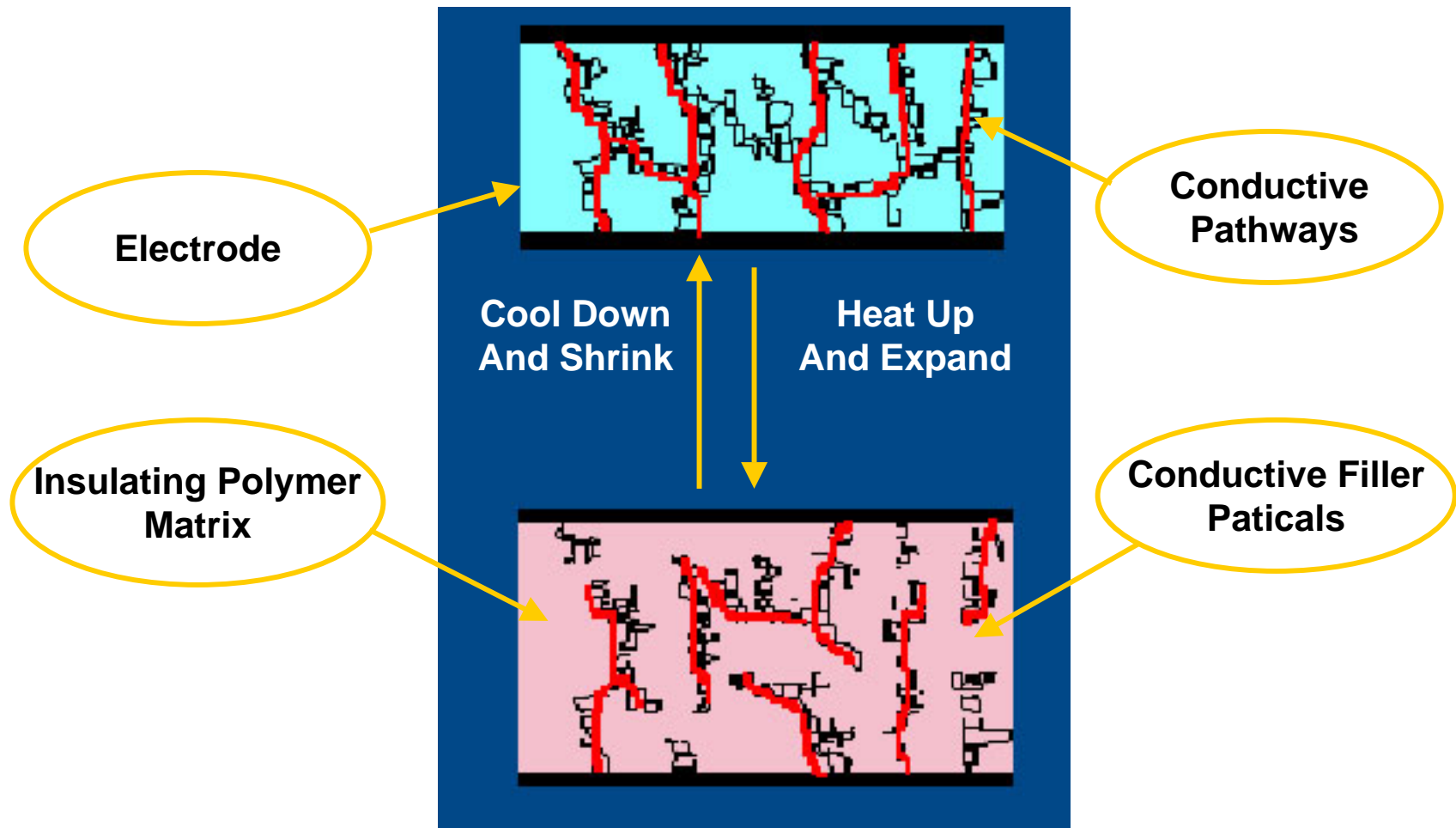


Product overview

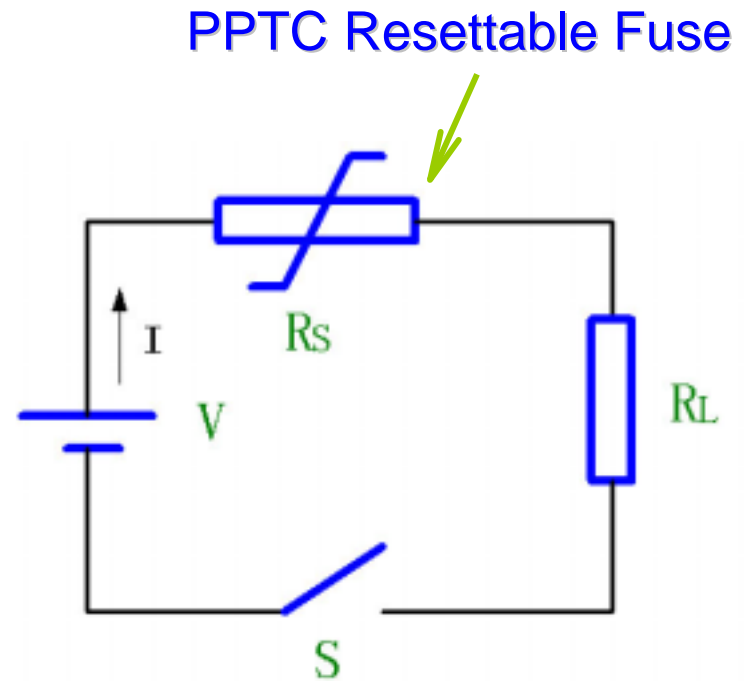
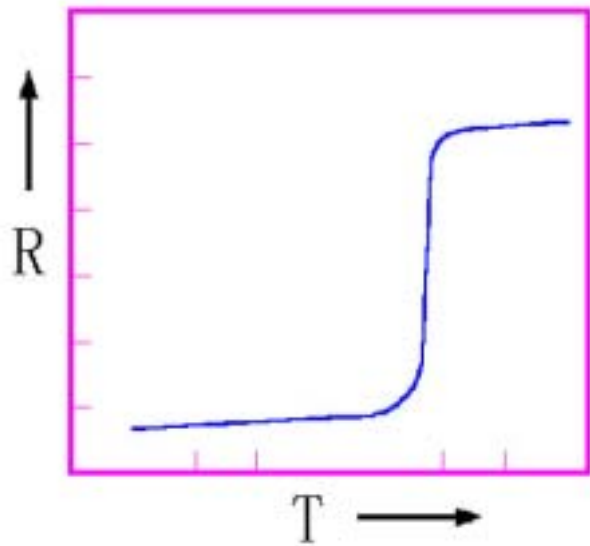
- Polymer PTC
- Ceramic PTC
- Thyristor Protectors

Polymer PTC

Construction of PPTC



Basic characters of PPTC



LB series



Features:

Radial leaded; Quick time to trip;
High voltage endurance; Resettable;
High resistance; Low parasitic capacitance/
flat impedance with frequency

Application:

Analog/POTS linecards; xDSL modem;
Network Interface Devices (NID);
Wireless LAN base station;
Microcellular base station

LM , LMV series



Features:

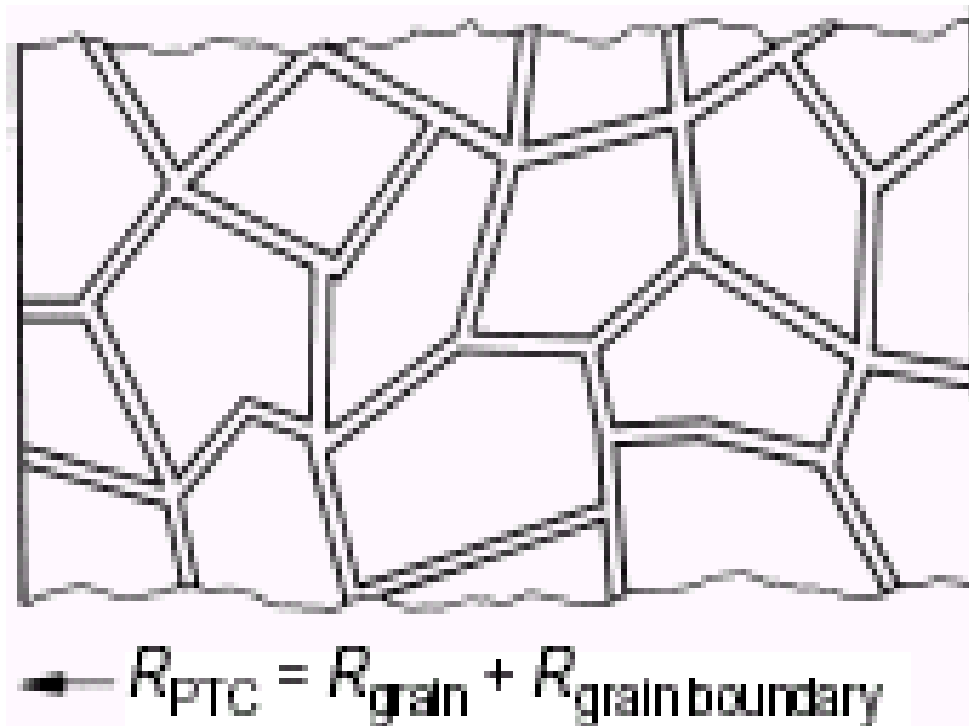
SMD devices; Small profile; Quick time to trip;
High voltage endurance; Resettable;
High resistance; Low parasitic capacitance/
flat impedance with frequency

Application:

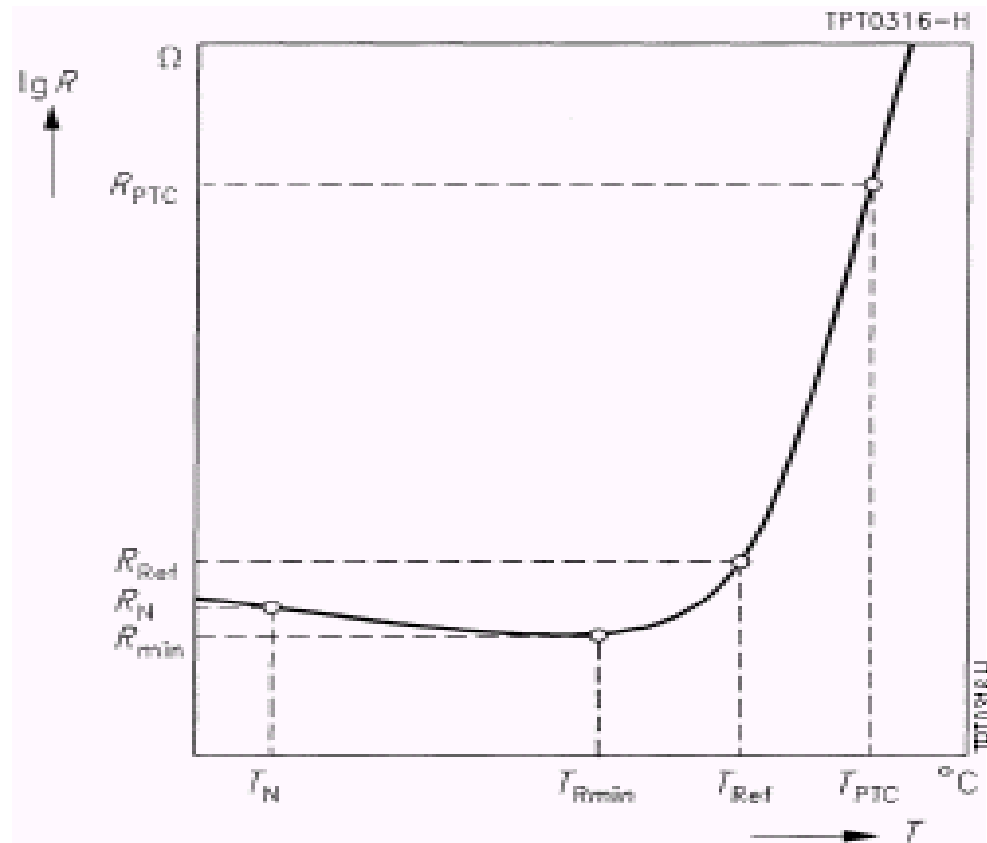
Analog/POTS linecards; xDSL modems;
Network Interface Devices (NID);
Wireless LAN base station;
Micro cellular base station

Ceramic PTC

Construction of CPTC



Basic characters of CPTC



SCA Series



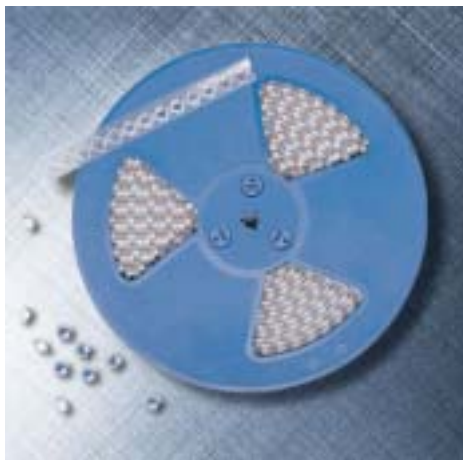
Features:

Rapid switch; High voltage endurance;
High current endurance;
Lead-free weld

Application:

Exchanger; Main distribution frame;
Local internet; ADSL

SCP Series



Features:

Rapid switch; Lead-free weld;
High current endurance;
High voltage endurance;

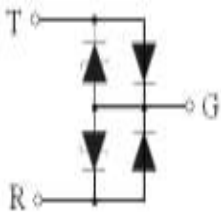
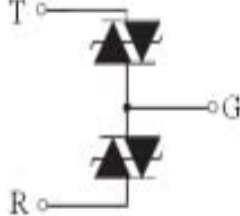


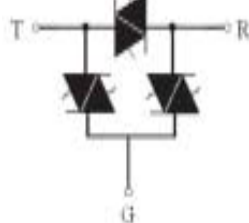
Application:

Exchanger; Main distribution frame;
Local internet; ADSL

Thyristor Protector

- **Fixed Voltage Protection Products**
- **Programmable Voltage Protection Products**
- **Current Limiting Protection Products**

Fixed Voltage Protection Products

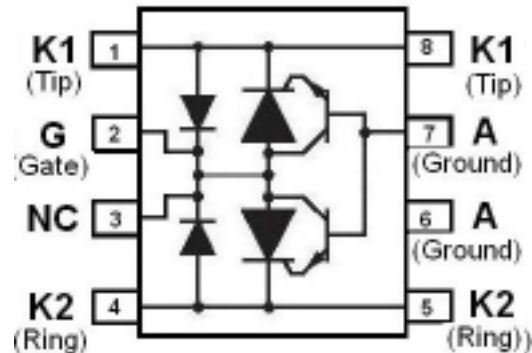
Family				
WEOS1-xxx/xxx	WEOS3-xxx/xxx	WEOS4-xxx/xxx	WEOS5-xxx/xxx	WEOS7-xxx/xxx
Device Symbol				
				
Application				
SLIC Linecard protection	3 Wire ground bidirectional, solid state relay protection	2 wire system, ISDN, subset protection	SLIC, linecard, ISDN protection	3 wire battery backed ringer, ISDN, interwire protection
Description				
Dual unidirectional transient voltage suppressors	Dual bidirectional transient voltage suppressors	Single bidirectional transient voltages uppressors	Single unidirectional transient voltage suppressors	Triple bidirectional transient voltage suppressors
Package				
SIP3	SIP3	SMB	SMB	TO263
		TO92	TO92	

Programmable Voltage Protection Products

Family

WEOS6-xxx

Device Symbol



Application

SLIC Protection

Description

Dual programmable transient voltage suppressors

Package

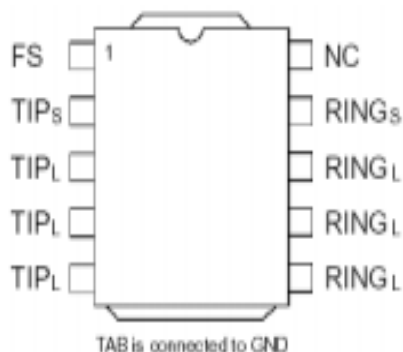
SO-8

Current Limiting Protection Products

Family

WCLPxxx

Device Symbol



Application

SLIC Protection

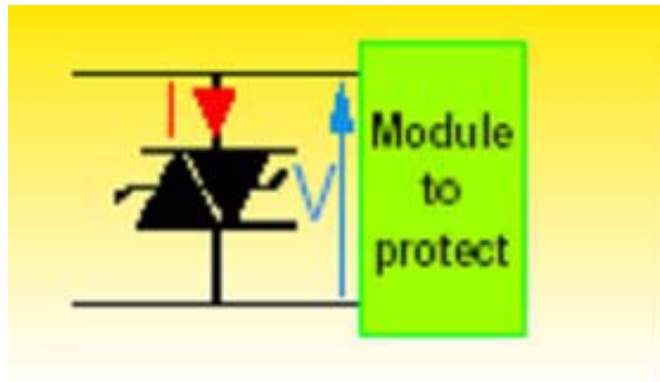
Description

Dual bidirectional protection device, provides both a transient overvoltage protection and an overcurrent protection.

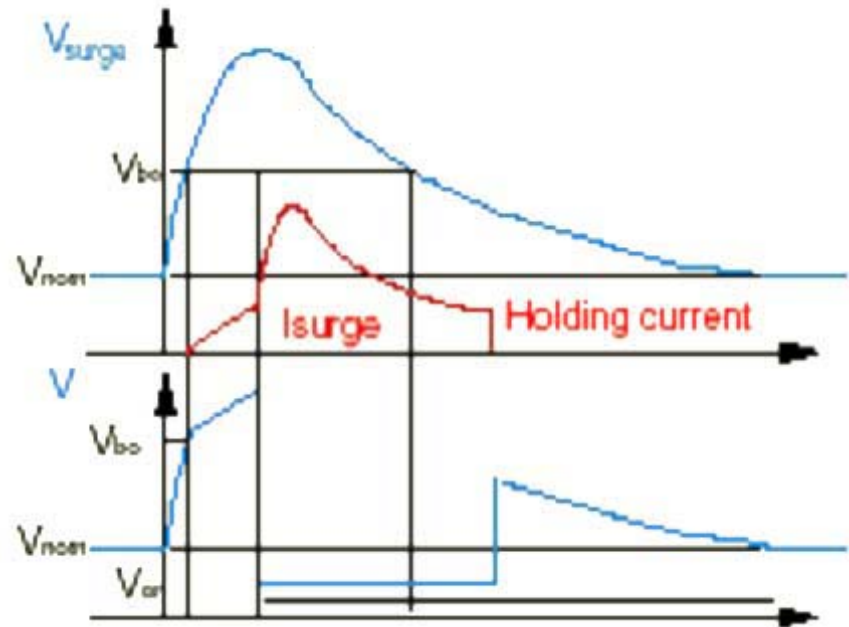
Package

SO-8

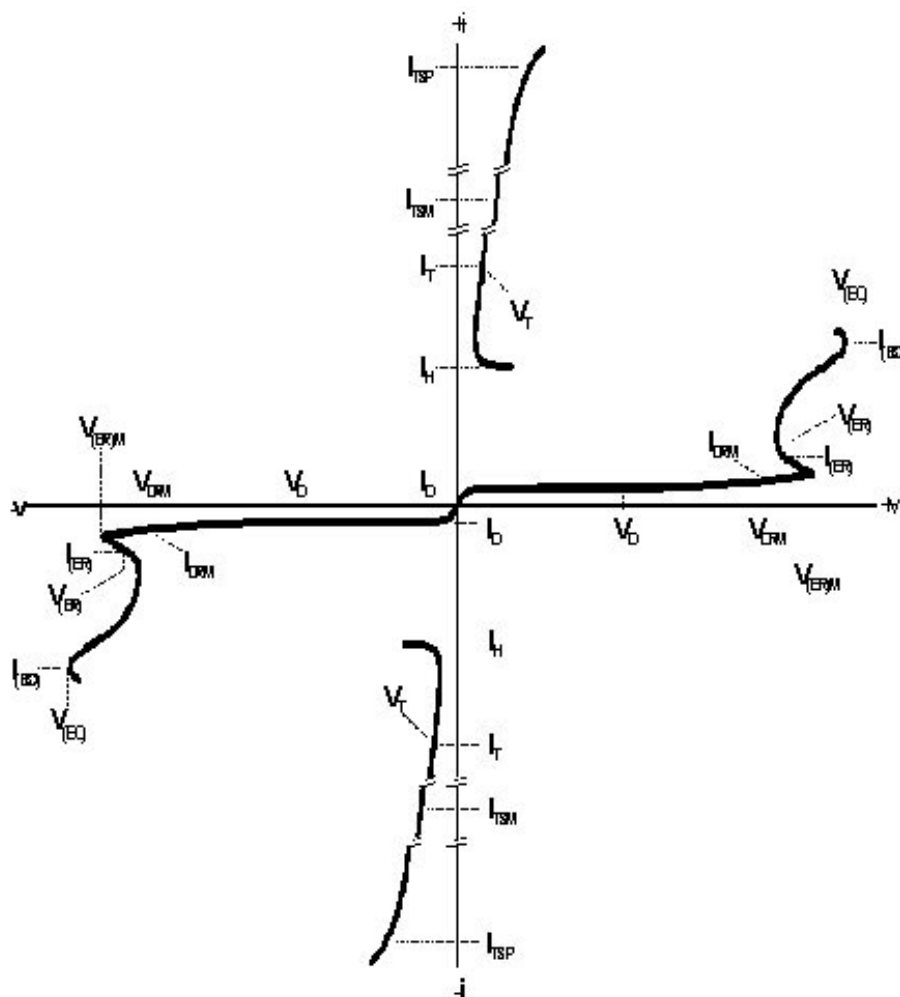
Behavior



- Stable Breakover Voltage
- No Ageing
- Reproducible Operation
- No Noise

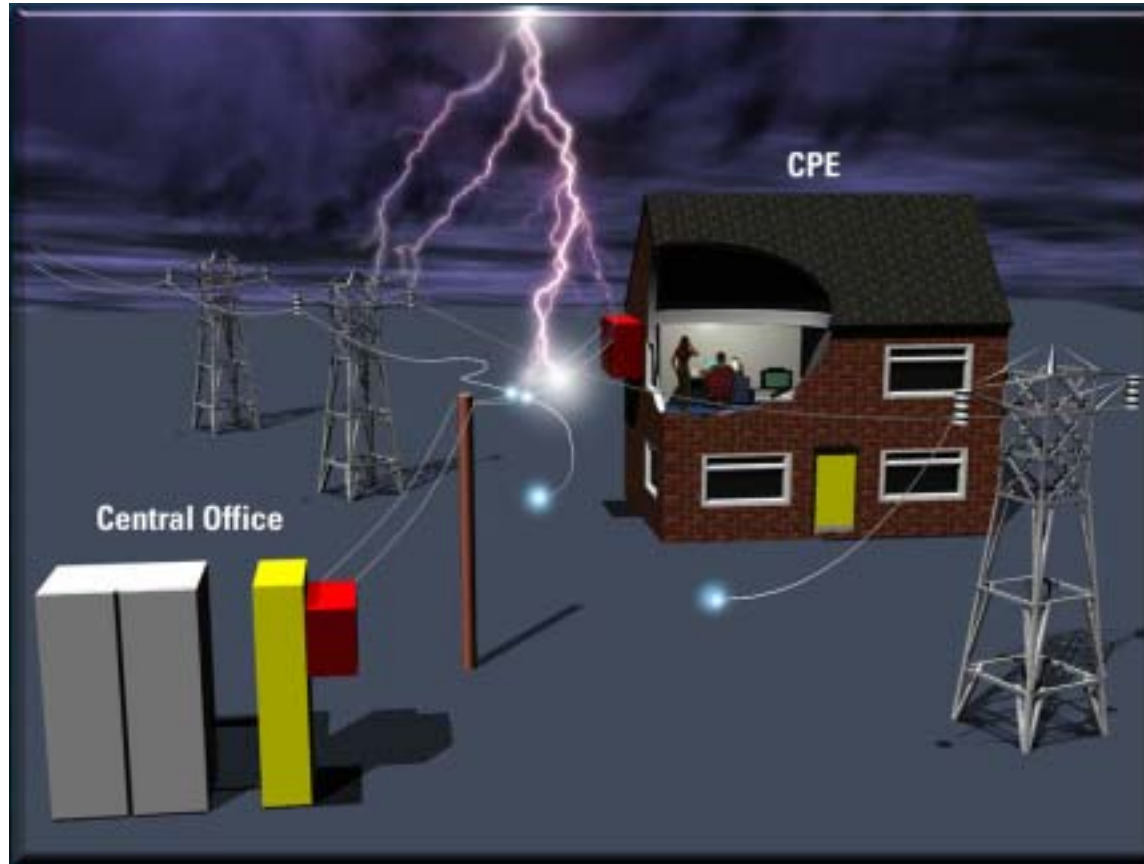


Electrical Main Parameters



- V_{DRM} : Stand off voltage
- V_{BR} : Breakdown Voltage
- V_{BO} : Break over Voltage
- I_{BO} : Break over Current
- I_H : Continuous Holding Current
- I_{pp} : Surge Non-Repetitive Forward Current

Protection for telecom equipment



Why Protection

- To ensure equipment having long term reliability and uninterrupted service during transient electrical activity
- To meet the Safety Regulation of different countries, such as FCC part 68, Bellcore, ITU-T, UL1950...etc

China

YDT

USA

FCC part 68

(Subscriber)

USA

Telcordia

(Central Office)

Europe/Asia Pacific

ITU-T K.21

(Subscriber)

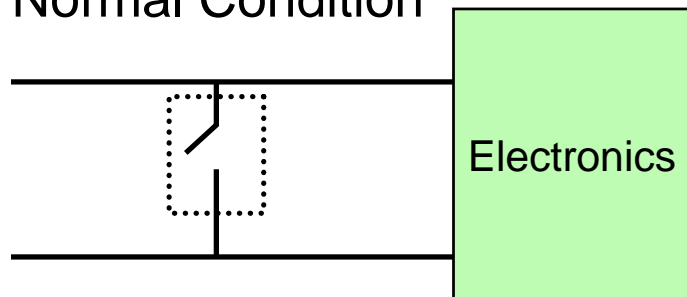
Europe/Asia Pacific

ITU-T K.20

(Central Office)

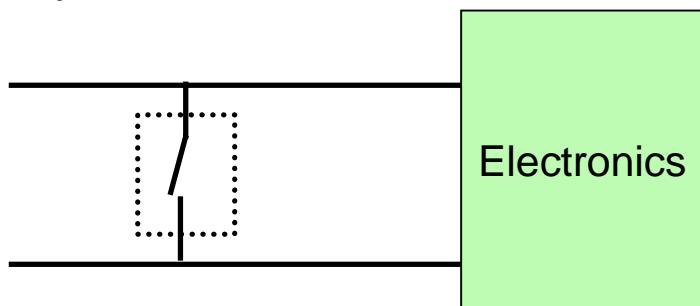
What the Thyristor EOS Protection Products Do

Normal Condition



For most of its life, the thyristor does nothing. This means that the thyristor is transparent in normal operation, i.e. an open switch.

System Fault Condition



Thyristor limits overvoltages to a safe level. The thyristor switches, shorting out the high energy transients - the switch closes. When switched

All current passes through the thyristor, no harmful voltages reach electronics. Electronics are protected.

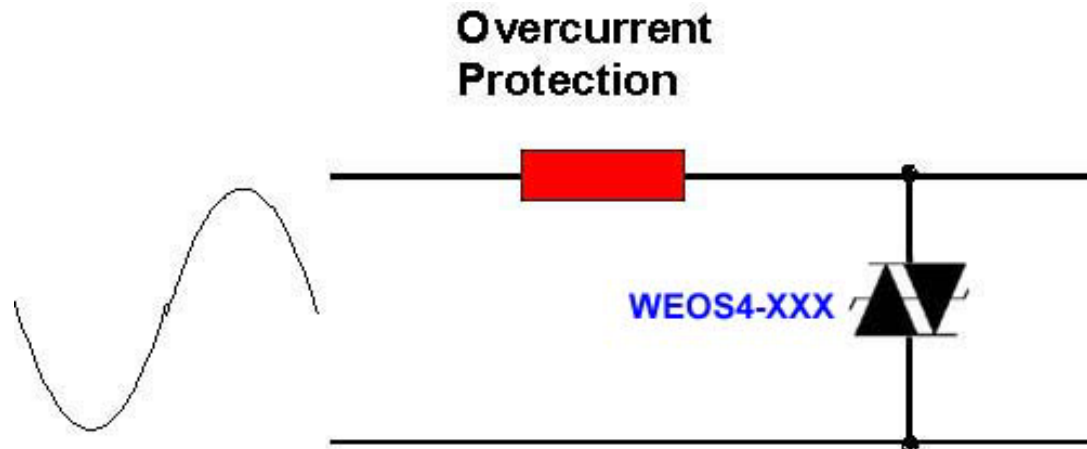
At end of fault condition, thyristor switches off - switch opens. Normal operation is restored.

Applications

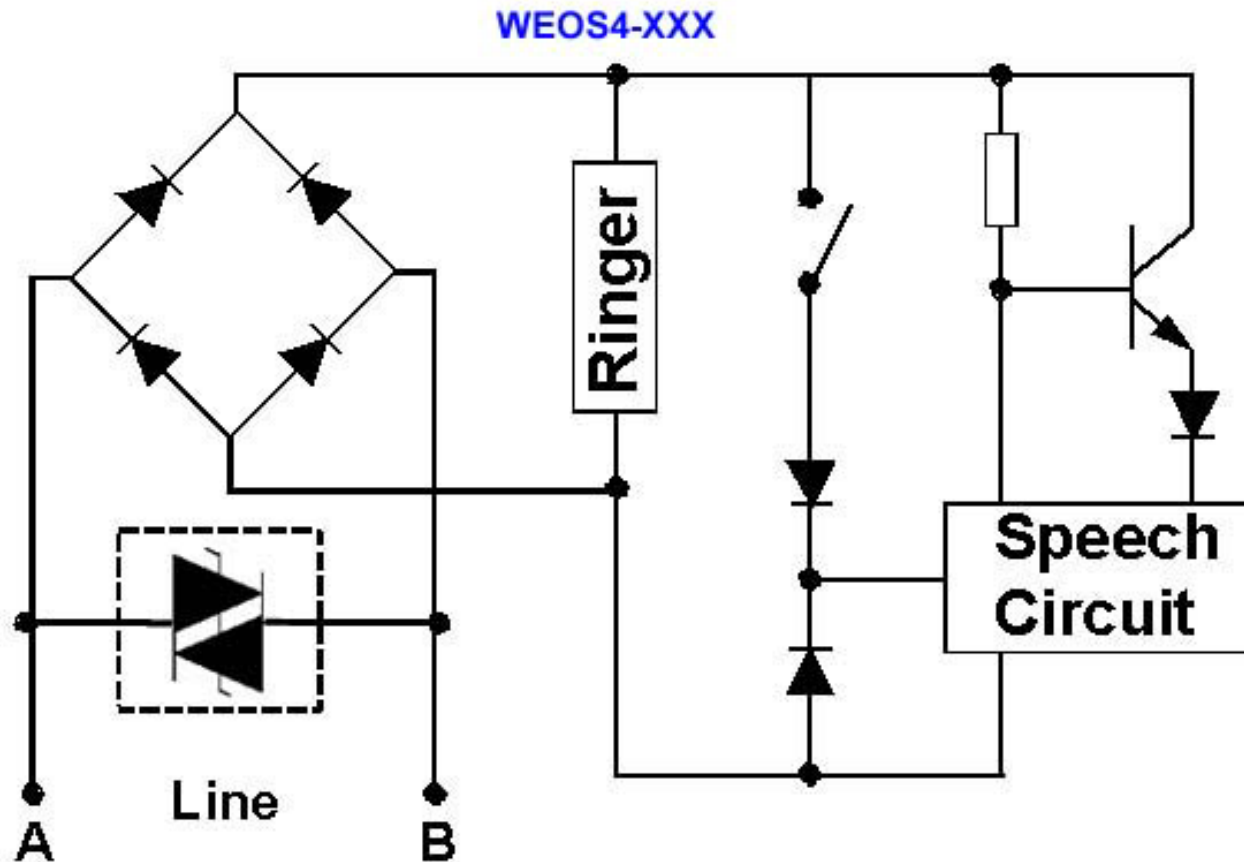
- Customer Premises Equipment CPE
(Modem, Corded Phone, Cordless Phone, DTAM, CID, FAX, Surge Bar...etc)
- Digital Transmission Equipment DTE
(ADSL, xDSL, ISDN, Router, DLC, T1/E1...etc)
- Central Office & PBX, Access Equipment, SLIC Protection
- IA Products
- Data Line protection

Protection Scheme

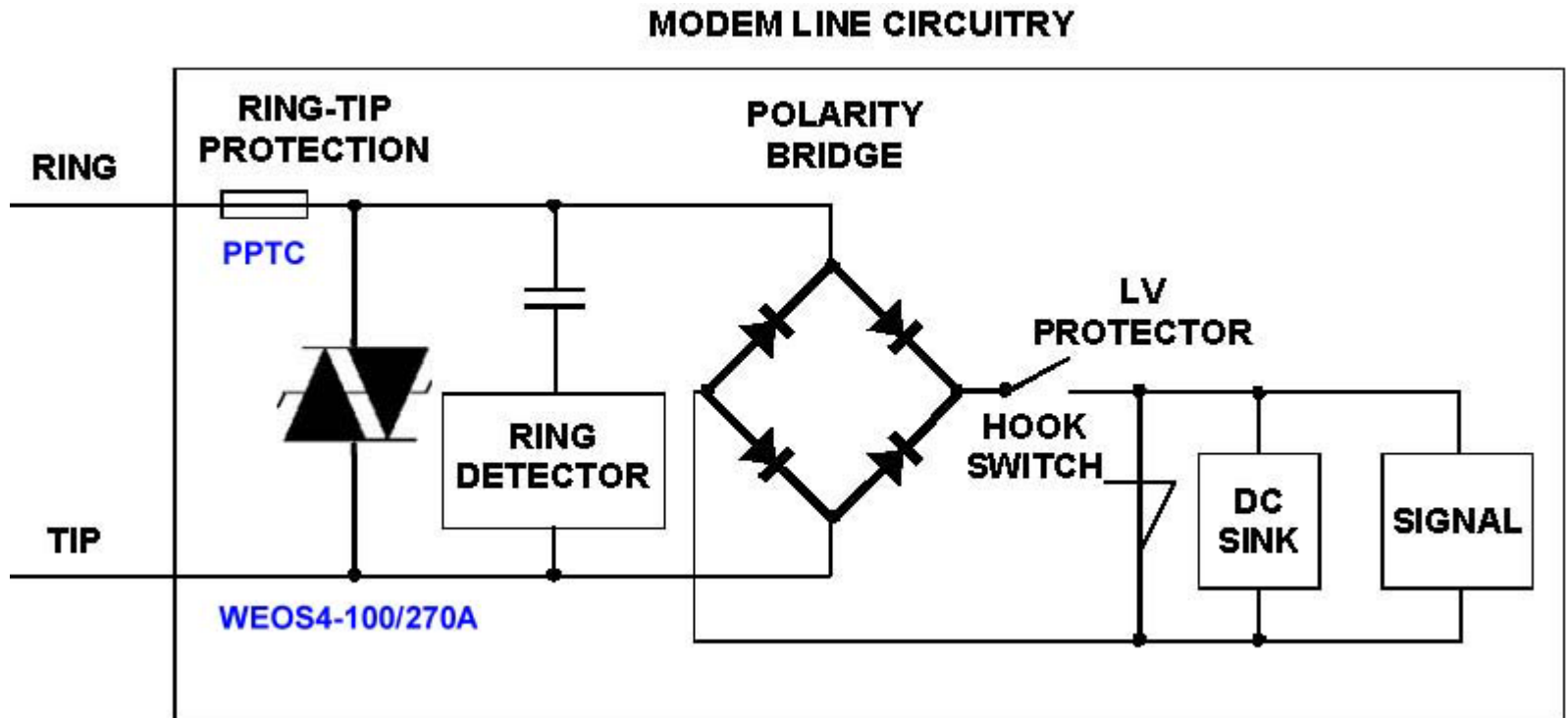
- Equipment needs to survive contact with electrical mains supply
- The thyristor needs to survive long enough for the overcurrent protection to operate



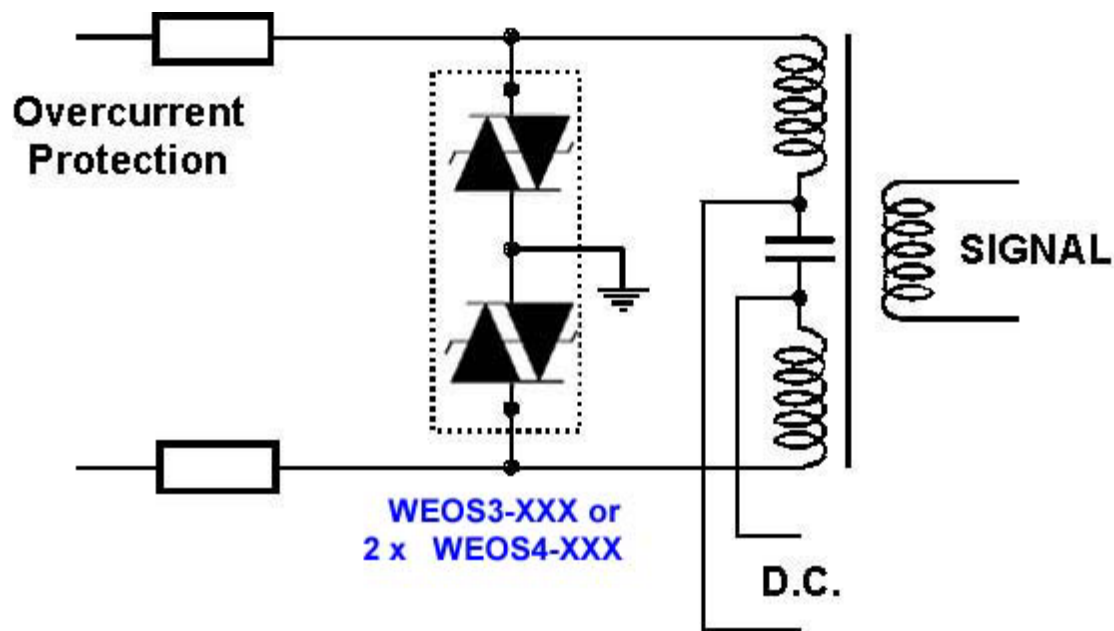
Telephone Protection



Modem/Telephone Protection

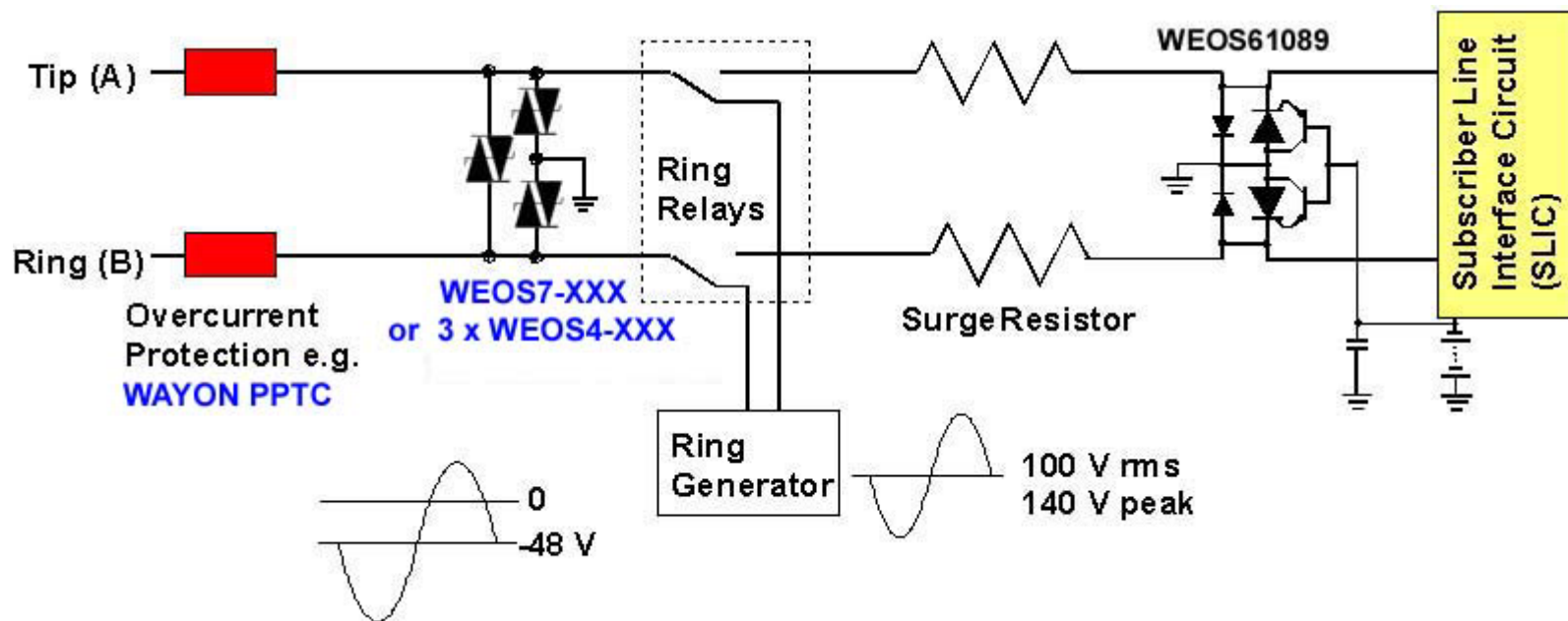


ISDN/Pair Gain System

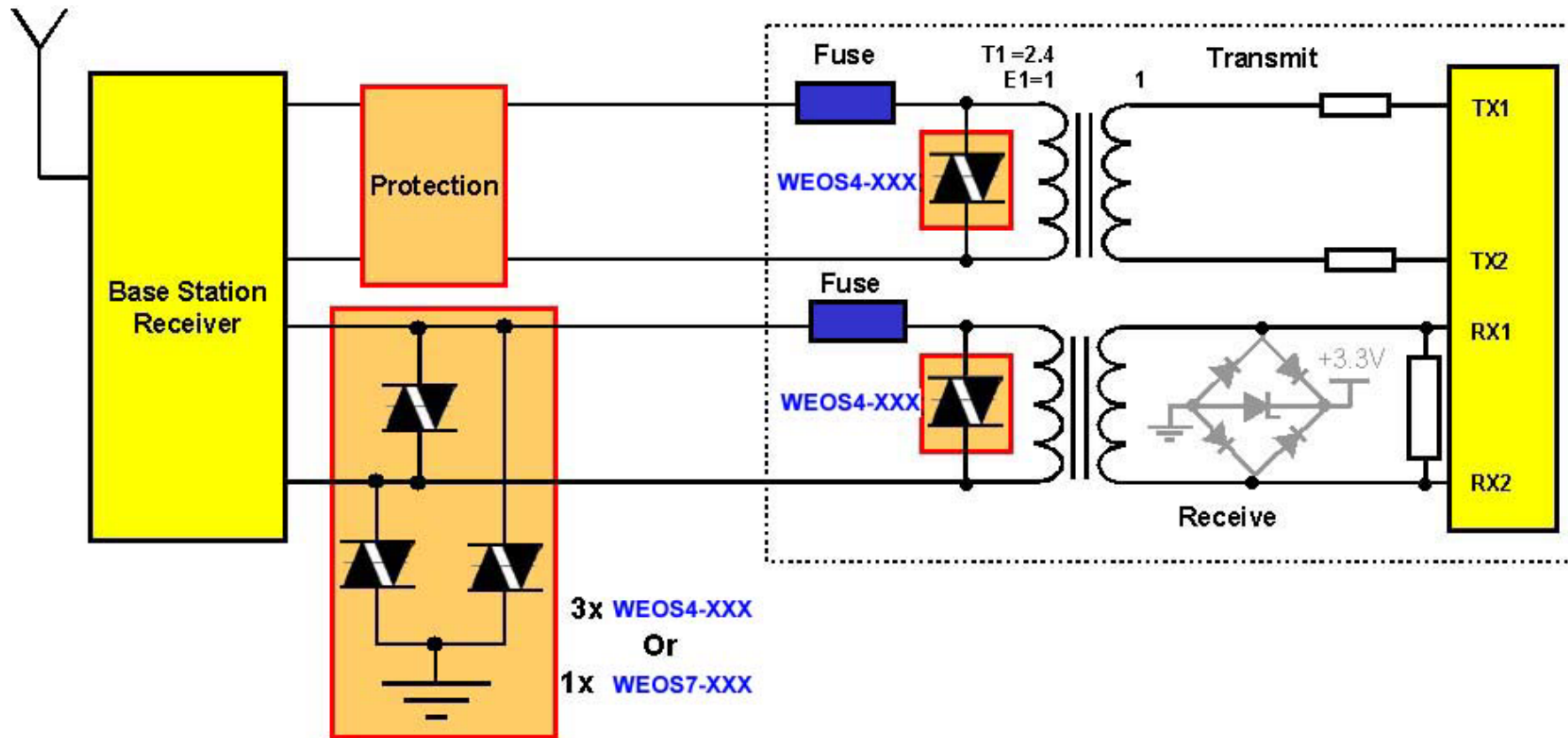


Typical 2 wire system
e.g. ISDN or Pair Gain

Advance Information: Gated protection

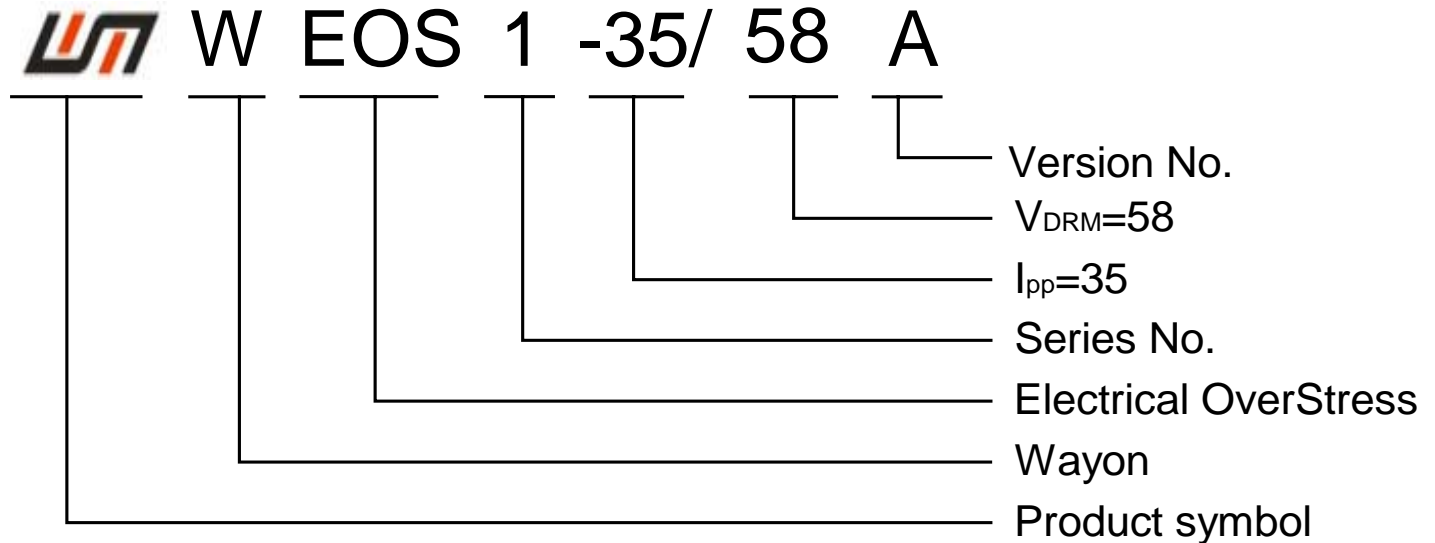


T1/E1 Applications

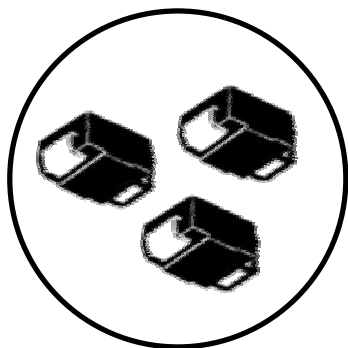


Available WEOS Parts configurations

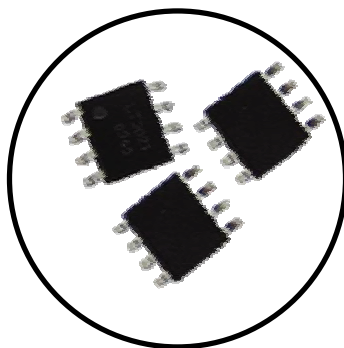
Exp.:



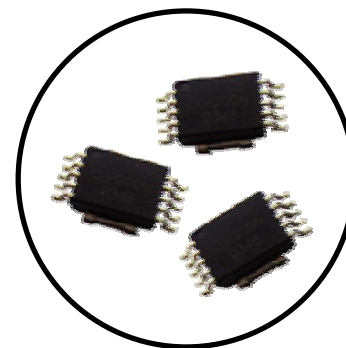
Package



SMB



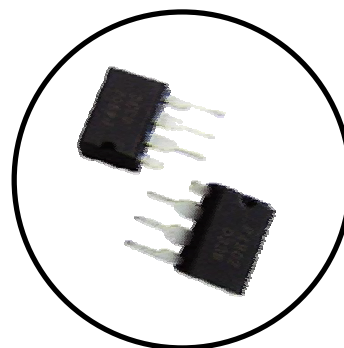
SO-8



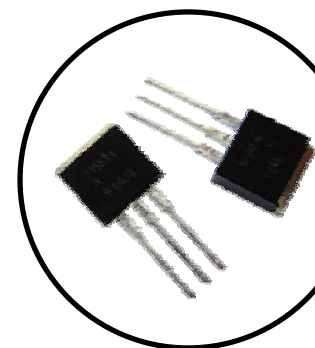
SO-10



TO-92



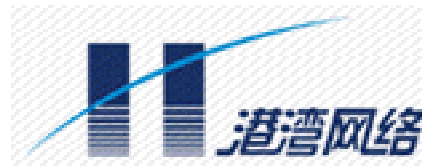
SIP-3



TO-263

Application Case

Customers:





采购订单 PURCHASE ORDER



华为技术有限公司
HUAWEI TECHNOLOGIES CO., LTD.

深圳市龙岗区坂田华为总部办公楼
Administration Building, Huawei Technologies Co., Ltd.
Bantian, Longgang District, Shenzhen, P. R. China 518129
86-755-28780808

Supplier: 南京民信立电器有限公司
Contact: 殷念文
Phone: (025) 52103994
Fax: (025) 52105031
Bill To: 深圳市龙岗区坂田华为基地机加工中心二楼国内
财务部采购核算处

深圳, 518129
China

1 of 1

Date: 13-FEB-2004

PO Type: RELEASE
PO/Ref. NO.: 10032104-1
PO/Ref. Ver.: 0
Payment Terms / Tax Rate: 货到60天
Shipping Terms: DDP SZ
Shipping Mode: 空运
Currency: CNY
Ship To: 深圳市龙岗区坂田
华为基地生产中心实验楼

深圳, 518129
China

序号 L	华为编码 HW P/N	厂家型号/生产厂家 Description	数量 Qty.	单位 Unit	单价 (不含税) Unit Price	交货日期 Del. Date	交货地点 Ship To	费用类型 Exp. Type
1	07050032	/TZ250-180/民信立/0/LGX1 / 5	22000	PCS		01-MAR-04	H80_自动物流中 心	*INV
		/TZ250-180/民信立/0/LGX1 /	17000	PCS		06-MAR-04	H80_自动物流中 心	*INV
		/TZ250-180/民信立/0/LGX1 /	10000	PCS		13-MAR-04	H80_自动物流中 心	*INV
2	06050026	/WE05-80/270A/民信立/0/LGX1 / 15000	15000	PCS		13-MAR-04	H80_自动物流中 心	*INV

请盖章返回至 0755-28782035. 并回便交货!
其用, 需本在交验月的"前5后0"交货.
TF61

总金额 (不含税) Total Amount (Exclude Tax): 40480
税额Tax: 6881.6
总金额 (含税) Total Amount (Include Tax): 47361.6
大写Capitalization: 肆万柒仟叁佰陆拾壹圆陆角整

特别说明Remark: 订单行第3列内"/"分隔开的6位分别表示"描述/厂家型号/生产厂家/物料属性/不特别说明/外协任务命令编号".
第8列如果出现华为员工姓名表示该货物直接交货到该员工处, 可以通过订单头中华为总机查询员工联系方式. 第9列*INV,
*CIP, *EXP, *FA代表该行货物的财务费用类型, 即"运费/保险费/关税/固定资产".
经办人Buyer 刘福强 21208, 供应商Vendor Sign

Note to supplier:

备注Notes:

1、此订单依据华为和供应商签定的MPA和SOW附件约定的条件条款。

This Purchase Order is governed by relative Terms & Conditions in MPA&SOW or other valid document of understanding signed by Huawei and Supplier.

2、收到此订单5日内, 买方须确认此单并传回买方, 传真号码:

Seller is requested to confirm acceptance of this Purchase Order by signing above and fax a copy back at: within 5 days.

3、发票和账单上必须写有以上订单号和序号

The PO No. and the appropriate LNo. hereinbefore must appear on each invoice and bill of lading relating to this PO.

ZTE中兴

供方库反馈单

反馈单号: KG0423-30000700-01

交货日期: 2004-06-07

需方: 深圳市中兴通讯电子有限公司

供应商: 上海顺安通讯防护器材有限公司

联系人: 谢哲明

联系人: 殷仲刚

传真: +86-755-26770142

传真: 021-65058024

电话: +86-755-26770483

电话: 021-65057884

E-Mail: chen.zheming@zte.com.cn

E-Mail: sunon@online.sh.cn

robbin.mao@sunontech.com

材料代码	材料名称	规格型号	封装形式	品牌	单位	数量	币种	单价	金额
30500003	正温度系数热敏电阻	SF250-120-10Ω±20%	7*11*4.6, 间距: 5 脚径: 0.8 引脚长 4~5	SUNON	只	8000.000	RMB	0.6500	5200.0000
30500026	自恢复保险丝	LP30-160	10.2*16.8*3 间距 5.1 脚径 0.6	维安	只	1000.000	RMB	0.6000	600.0000
30500038	自恢复保险丝	SF600-150	13.5*12.6*6 间距 5 脚径 0.7	SUNON	只	8000.000	RMB	1.9700	15760.0000
30500040	自恢复保险丝	SF600-160-RA-B-0.5-0.13	16*12.6*6 间距 5 脚径 0.7	SUNON	只	15500.000	RMB	1.8400	28520.0000
30500043	自恢复保险丝	SF250-180U	10.4*12.6*3.6 间距 5 脚径 0.7 引脚长 3~5	SUNON	只	78000.000	RMB	0.6300	49140.0000
30500049	自恢复保险丝	LP60-025	9.7.5*3.1 间距 5.2 脚径 0.6	维安	只	1000.000	RMB	0.6000	600.0000
30500057	自恢复保险丝	LP30-250	11.4*18.3*3 间距 5 脚径 0.6	维安	只	200.000	RMB	0.9000	180.0000
30500063	自恢复保险丝	LP06-120	6.9*11.7*3.1 间距 5.1 脚径 0.6	维安	只	7500.000	RMB	0.8000	6000.0000

总金额: 152800.00



订 货 合 同

1. 需方：烽火通信科技股份有限公司
供方：武汉联力电子商贸有限责任公司
2. 订货日期：

合同号：QR/PL01/015-A

合同号：2000012596

订货时间：2004.03.16

序号	厂家型号	需方型号	数量	单价 (元)	金额 (元)	税率 (元)	需求日期	到货日期
1	WP3100B	OWP5000G2	75000				2004.04.12	
			小 计					
			价 税 合 计					

货款合计：(大写)

3. 交货地点：(1) 烽火通信科技股份有限公司系统设备部。
4. 包装要求：生产厂家原包装。
5. 运输方式：(1) 中铁快运。(2) 供方支付运费。
6. 质量检验标准：按产品出厂的各项技术参数及规格进行验收。
7. 生产年限要求：所有合同货物的生产日期 (Date of Birth) 必须在交货日期前的24个月之内，否则供方必须通知需方，在需方确认收货之后，才能交付。如果未得到需方的书面确认直接发货，需方有权拒收退货。
8. 结算方式及期限：货到验收合格后(需方验收合格时间为5个工作日)，90天内凭相关发票和提货单、空账单、发货单在需方银行6个月银行承兑汇票或商业承兑汇票支付全部货款。供方在供货5个工作日内，提供发票并开发票。
9. 发票开具要求：
(1) 发票的抬头：按需方名称“武汉烽火通信科技股份有限公司”。
(2) 发票的开票内容：按需方“系统设备部”。
(3) 发票的备注：按需方“需方合同号”。
10. 请在合同签订之日起的三个工作日内，将货到需方仓库的准确日期填写在“到货日期”栏内，并附此章附件，否则，本合同无效。
11. 本合同一式二份，自签字之日起生效。供方如有异议，请在合同供货日期前一个月内提出，如逾期供货时间未提出异议，需方可单方面取消合同的权力。

需 方 (请完整填写)	供 方
单位名称：烽火通信科技股份有限公司 单位地址：武汉市洪山区烽火科技园5号 法定代表人：杨建 税 号：420111714886111 开户银行：工行 邮科院分理处 账 号：3232018869000000 电话：027-87604607 传真：027-87604607	单位名称：武汉联力电子商贸有限责任公司 单位地址：武汉市洪山区烽火科技园5号 法定代表人：杨建 税 号：420111714886111 开户银行：工行 邮科院分理处 账 号：3232018869000000 电话：027-87604607 传真：027-87604607

FUJITSU

【 采 购 定 单 】 第 1页/共 1页

发 单 人 : 010 定单编号: PL06396W0 发单日期: 2004-02-10
交 货 地 点: 江苏富士通信息产业有限公司 货币单位: RMB

合 同 号 码: 合同专用章 地址: 苏州工业园区 电话: (0512) 68250077
日期: 2004年2月10日 签字日期: 2/10

行 号	品 名	规 格	单 位	数 量	单 价	合 价	交货日期	应付金额
1	PTC THERMISTOR	FA700-010-01AT	个	2,000	940.0000	1,880.00	04/03/03	0.00
2	PTC THERMISTOR	FA700-010-01AT	个	4,000	1,270.0000	5,080.00	04/03/03	0.40
3	PTC THERMISTOR	FA700-010-01AT	个	174,000	900.0000	156,600.00	04/03/03	0.40
双方商合计:						163,560.00		0.00
税 金:						28,014.90		
税 后 合 计:						191,574.90		

本合同一式两份: 一份由我方保留, 一份由贵方保留