A. Features

重要特性

- Smaller size saves board space and cost
  超小尺寸、节约空间和成本
- Resettable circuit protection
  自恢复保护、免维护
- Fast time-to-trip
  动作时间快
- Low resistance
  低内阻值
- Lead-free and compliant with the European Union RoHS Directive 2002/95/EC
  符合欧州ROHS无铅环保要求

B. Application

应用范围

Polymer Resettable Fuse for over-current, over-temperature and short-circuit protection
可恢复保险丝用于过流、温度和线路短路保护

- Loudspeaker、VCD、DVD、Transformers、Automotive electronics、Electronic toys、Motors
  音响喇叭、VCD、DVD机、变压器、汽车电子、电子玩具、马达（电动工具）
- IEEE1394 Ports
  IEEE1394通讯接口
- USB hub, ports and peripherals
  USB交换机及外围设备
- Phones
  电话设备
- Data communication
  数据交换机
- Modems/ Ethernet/LAN
  调制解调器/以太网

C. General Description

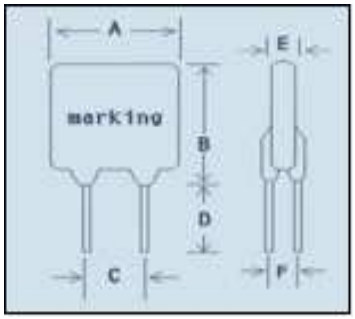
简要概述

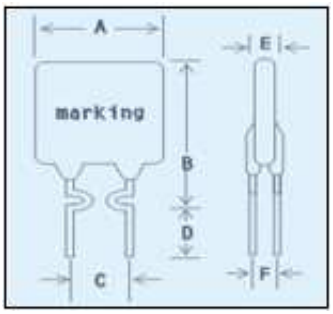
Polymer resettable fuse are made of polymeric PTC materials which is a matrix of
自恢复保险丝是聚合物高分子材料通过特殊工艺而成 ，
polymer containing dispersed conductive particles. Generally, the device has a very
高分子粒子按一定的规律排列，正常情况下，自恢复保险丝器件处于低内阻状态，
low resistance. If an over-current happened, as a response to the damage current,
当电路中电流突然增大时，
the resistance will immediately increase to very high, reducing the current of the
器件将会在短时间内阻值升到高阻状态、高分子膨胀
circuit to a safe value that the loading can carry. Once fault to the circuit is weed out
从而起到减少过电流；
and power is recuperated, the polymer will deflate itself , the device will reset and is
一旦故障排除后，高分子将会恢复正常规则排序。
ready for normal operation.

D. Product Dimensions（mm）

产品尺寸(图1为直引线型 图2为弯引线型)

Product model	A	B	C	D	E	引线直径
	Max	Max	Typ	Min	Max	Unit：mm
30V-050	7.4	12.2	5.1	7.6	3.0	0.6±0.05
30V-075	7.4	12.2	5.1	7.6	3.0	0.6±0.05
30V-090	7.4	12.2	5.1	7.6	3.0	0.6±0.05
30V-110	7.4	14.2	5.1	7.6	3.0	0.6±0.05
30V-135	8.9	13.5	5.1	7.6	3.0	0.6±0.05
30V-160	8.9	15.2	5.1	7.6	3.0	0.6±0.05
30V-185	10.2	15.7	5.1	7.6	3.0	0.6±0.05
30V-200	10.2	15.2	5.1	7.6	3.0	0.6±0.05
30V-250	11.4	18.3	5.1	7.6	3.0	0.6±0.05
30V-300	11.4	17.3	5.1	7.6	3.0	0.8±0.05
30V-400	14.0	20.1	5.1	7.6	3.0	0.8±0.05
30V-500	14.0	24.9	10.2	7.6	3.0	0.8±0.05
30V-600	18.0	24.9	10.2	7.6	3.0	0.8±0.05
30V-700	19.1	26.7	10.2	7.6	3.0	0.8±0.05
30V-800	21.6	29.2	10.2	7.6	3.0	0.8±0.05
30V-900	24.1	29.7	10.2	7.6	3.0	0.8±0.05





E. Electrical Characteristics

电气参数

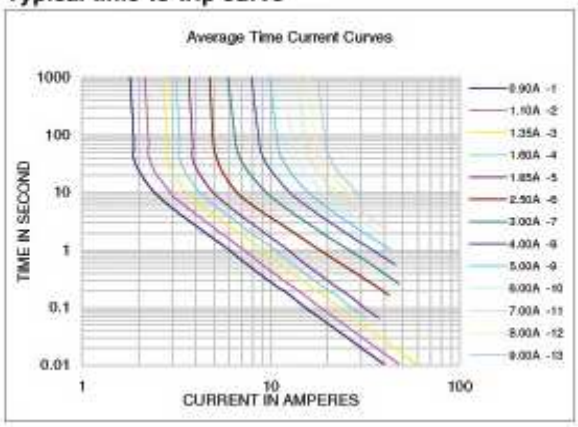
Products model	IH	IT	IMAX	VMAX	Trip		Pdtyp	Rmin	Rmax
	(A)	(A)	(A)	(V)	(A)	(S)	(W)	(Ω)	(Ω)
30V-050	0.50	1.00	40	30	2.50	4.8	0.6	0.180	0.220
30V-075	0.75	1.50	40	30	3.50	5.2	0.6	0.070	0.120
30V-090	0.90	1.80	40	30	4.50	5.9	0.6	0.070	0.12
30V-110	1.10	2.20	40	30	5.58	6.6	0.7	0.050	0.10
30V-135	1.35	2.70	40	30	6.75	7.3	0.8	0.040	0.08
30V-160	1.60	3.20	40	30	8.00	8.0	0.9	0.030	0.07
30V-185	1.85	3.70	40	30	9.25	8.7	1.0	0.030	0.06
30V-200	2.00	4.00	40	30	10.0	9.5	1.2	0.040	0.01
30V-250	2.50	5.00	40	30	12.50	10.3	1.2	0.020	0.04
30V-300	3.00	6.00	40	30	15.00	10.8	2.0	0.020	0.05
30V-400	4.00	8.00	40	30	20.00	12.7	2.5	0.010	0.03
30V-500	5.00	10.00	40	30	25.00	14.5	3.0	0.010	0.03
30V-600	6.00	12.00	40	30	30.00	16.0	3.5	0.005	0.02
30V-700	7.00	14.00	40	30	35.00	17.5	3.8	0.005	0.02
30V-800	8.00	16.00	40	30	40.00	18.8	4.0	0.005	0.02
30V-900	9.00	18.00	40	30	45.00	20.0	4.2	0.005	0.01

术语说明

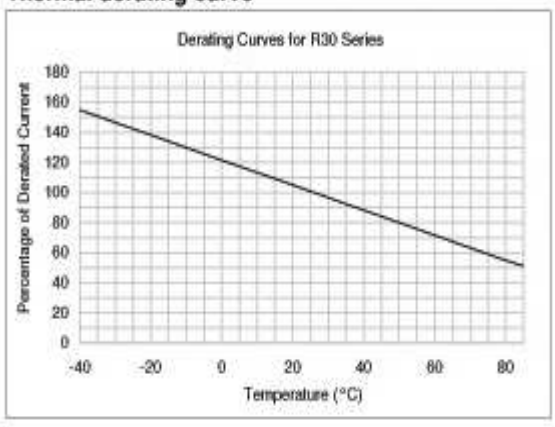
- I_H=HOLD CURRENT: MAXIMUM CURRENT AT WHICH THE DEVICE WILL NOT TRIP AT 25℃ STILL AIR.
  I_H：保持电流－－－25℃静态空气环境中PPTC不工作的最高电流
- I_T=TRIP CURRENT: MINIMUM CURRENT AT WHICH THE DEVICE WILL ALWAYS TRIP AT 25℃ STILL AIR.
  I_T：触发电流－－－25℃空气环境中PPTC动作所需的最小电流
- T_{TRIP}=MAXIMUM TIME TO TRIP(S) AT ASSIGNED CURRENT.
  T_{TRIP}：动作时间－－－25℃空气环境5倍IH时最大动作时间
- V_{MAX}=MAXIMUM VOLTAGE DEVICE CAN WITHSTAND WITHOUT DAMAGE AT RATED CURRENT.
  V_{MAX}：最大工作电压－－－PPTC的最大工作电压
- I_{MAX}=MAXIMUM FAULT CURRENT DEVICE CAN WITHSTAND WITHOUT DAMAGE AT RATED VOLTAGE.
  I_{MAX}：PPTC最大承受电流
- R_{MIN}=MINIMUM DEVICE RESISTANCE AT 25℃ PRIOR TO TRIPPING.
  R_{MIN}：最小电阻－－－25℃环境温度下PPTC最小零功率阻值
- R_{MAX}=MAXIMUM DEVICE RESISTANCE AT 25℃ PRIOR TO TRIPPING.
  R_{MAX}：最大电阻－－－25℃环境温度下 PPTC 最大零功率阻值

F. Thermal Derating Chart (A)

Typical time-to-trip curve



Thermal derating curve



G. Test Procedures and Requirements

测试条件

Test 测试项目	Test Conditions 测试条件	Accept/Reject Criteria判定标准
Resistance	In still air @ 25℃	Rmin≤R≤R1max
Time to Trip	Vmax, 25℃, In still air @ 25℃	T≤max. time to trip(seconds)
Hold Current	30 min. at I_H, In still air @ 25℃	No trip
Trip Cycle Life	Vmax, Imax, 100 cycles, In still air @ 25℃	No arcing or burning
Trip Endurance	Vmax, 1 hours, In still air @ 25℃	No arcing or burning

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