



电源模块器件故障的 失效应力与失效分析方法

1、电压应力与电流应力的故障现象区别



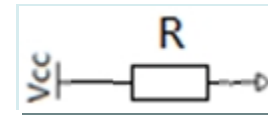
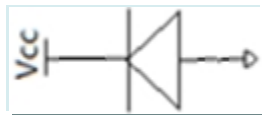
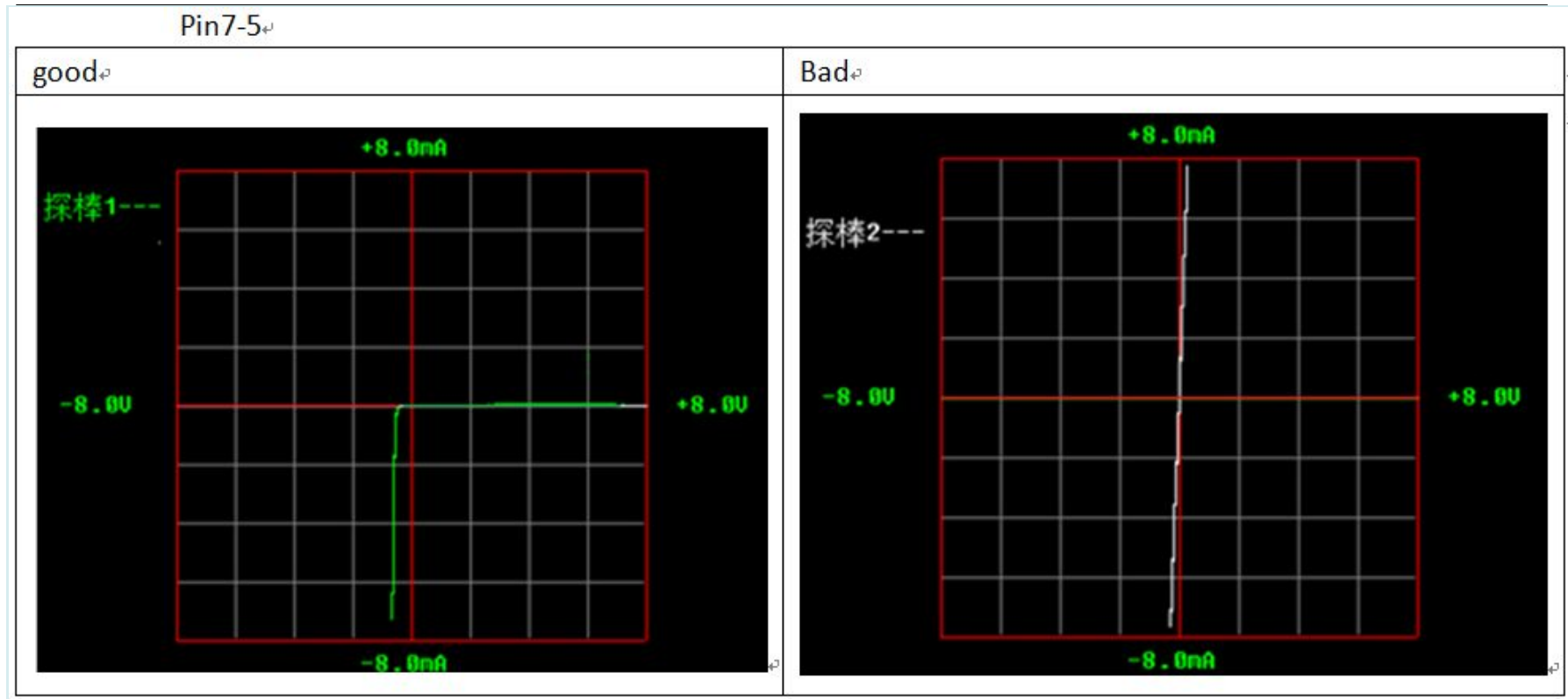


2、持续性应力与浪涌应力的区别

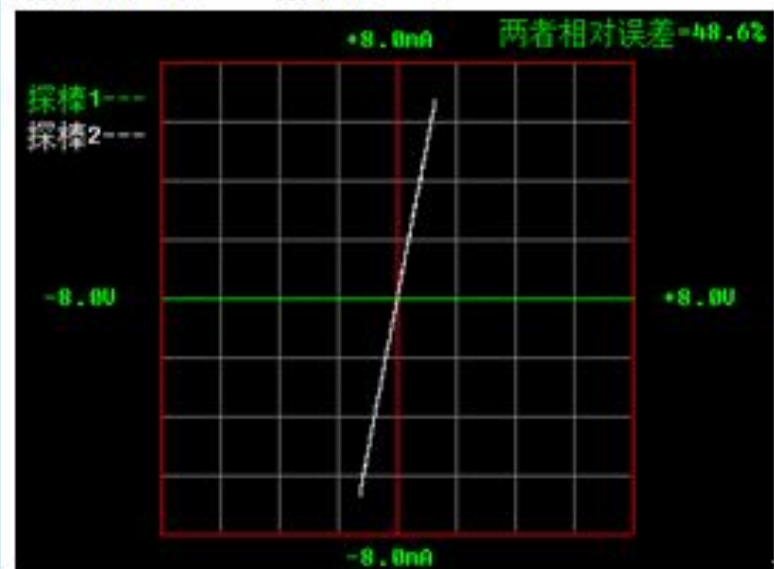




3、基于IV曲线的失效分析方法



+接 pin-5 D -接 pin-4 G↵



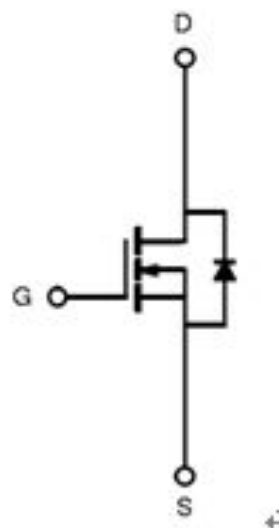
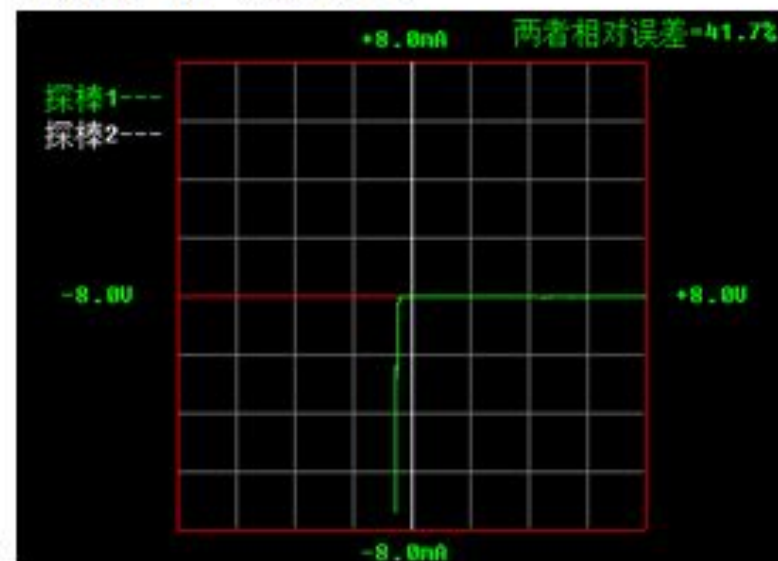
正常器件: D-G 开路↵
故障器件: 阻性↵

↵

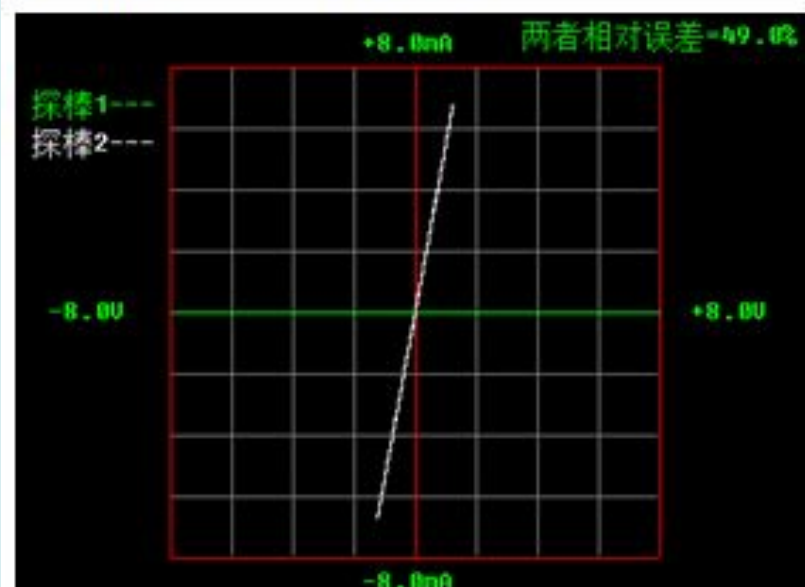
正常器件: D-S 反向二极管特性↵
故障器件: 短路通↵

↵

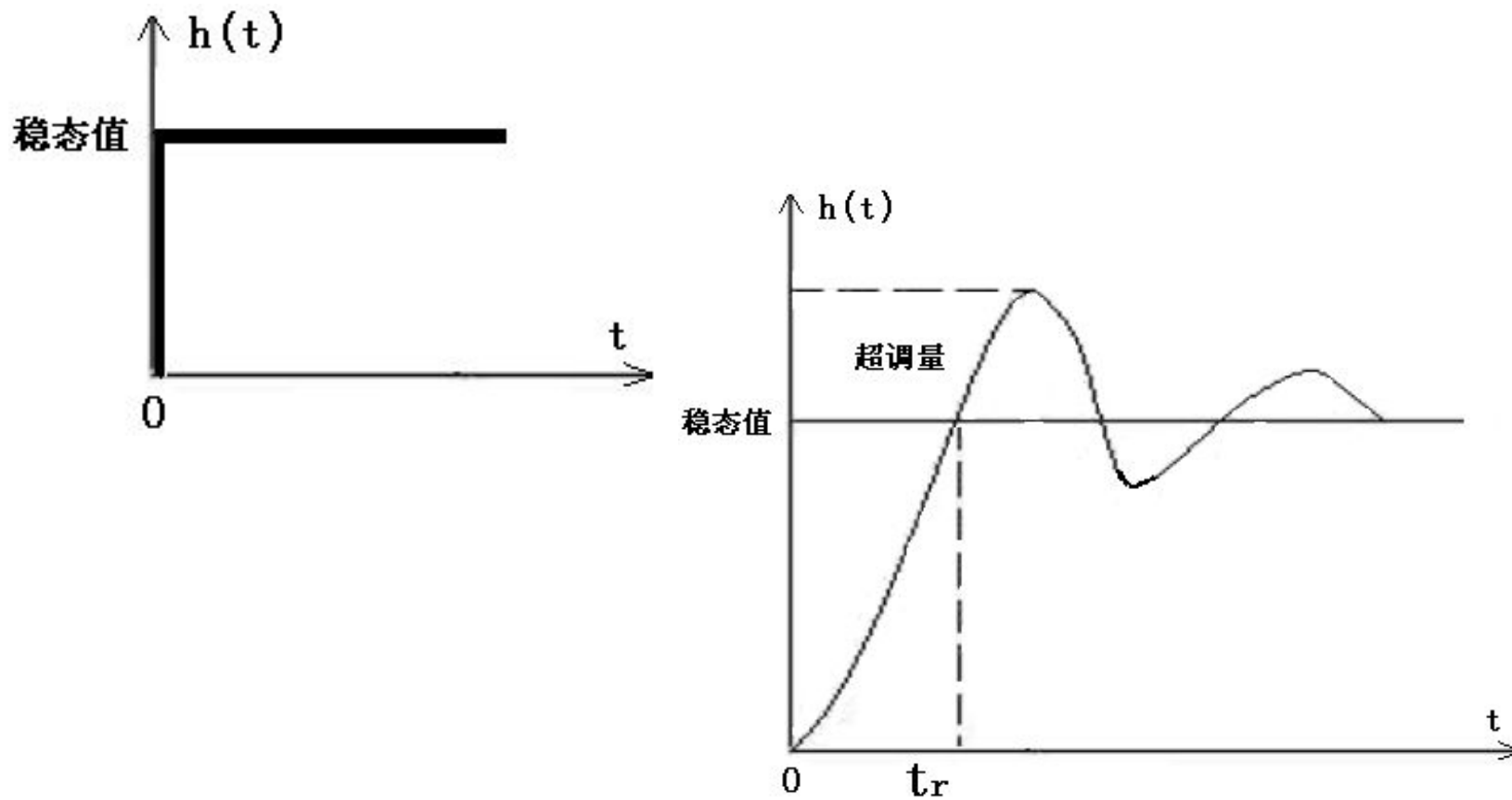
+接 pin-5 D -接 pin-1 S↵



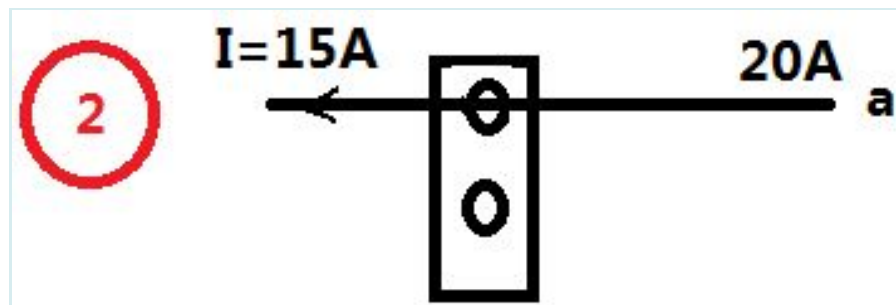
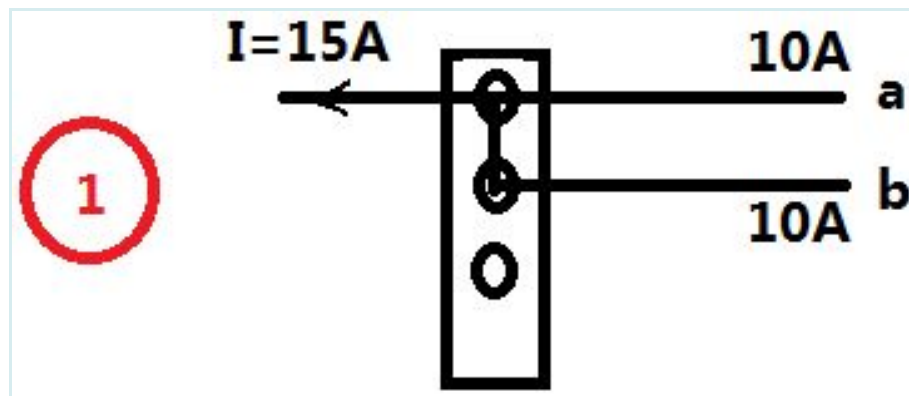
+接 pin-4 G -接 pin-1 S↵

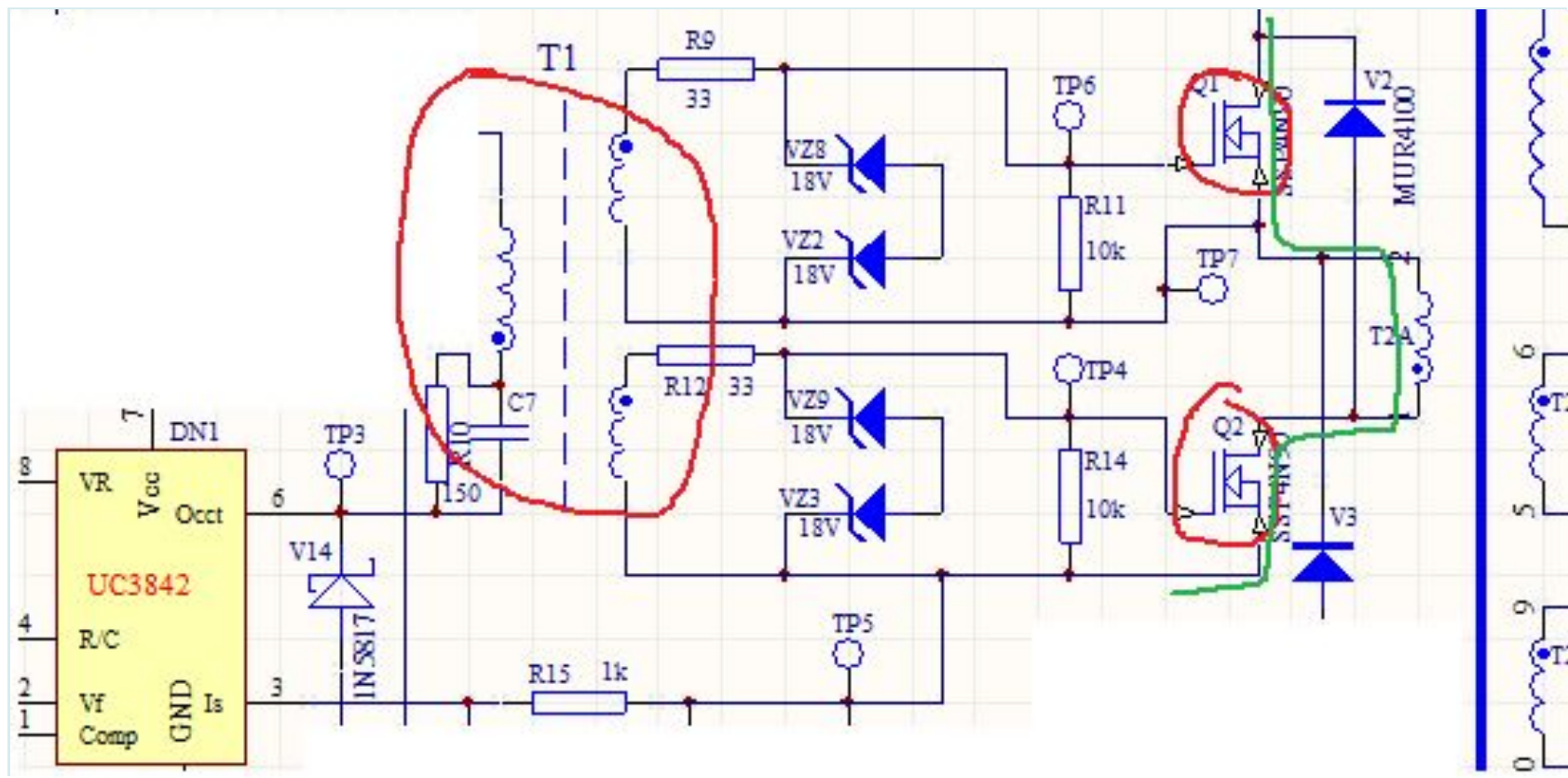


4、过渡过程及超调



5、可靠性串并联模型





- 1、草莓籽是什么颜色的？
- 2、硅二极管的正向导通压降是多少V？
- 3、1W的器件， $T_{jmax}=155\text{ }^{\circ}\text{C}$
工作在0.75W， $T_j=120\text{ }^{\circ}\text{C}$ ，
是否可以长期稳定可靠的工作？



