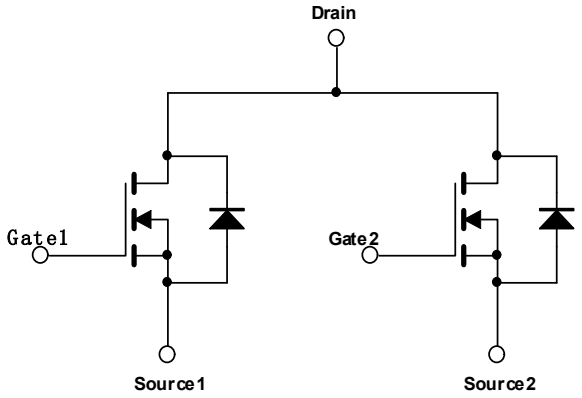
FM2123 (文件编号：S&CIC1366)

20V N 沟道 MOS

特点

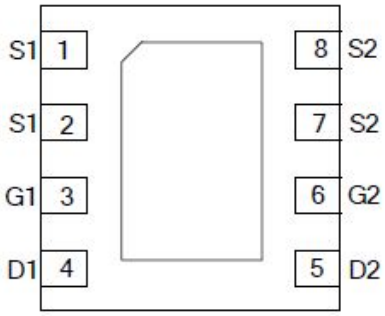
- 先进的 MOS 工艺技术
- 为 PWM、负载开关和其他通用应用的特殊设计
- 超低的导通电阻与低栅极电荷
- 快速切换和反向恢复
- 150℃的工作温度
- 无铅产品



概述

FM2123 采用了最新的处理技术，以实现高密度单元，并降低了导通电阻高频率工作指数。这些功能结合起来，使这个设计成为一个非常有效和可靠的用于功率开关和各种其他应用设备的产品。

引脚示意图及说明



引脚序号	引脚名称	引脚定义
1/2	S1	MOS1 源极
7/8	S2	MOS2 源极
3	G1	MOS1 栅极
6	G2	MOS2 栅极
4/5	D	MOS1、MOS2 漏极

绝对最大额定值

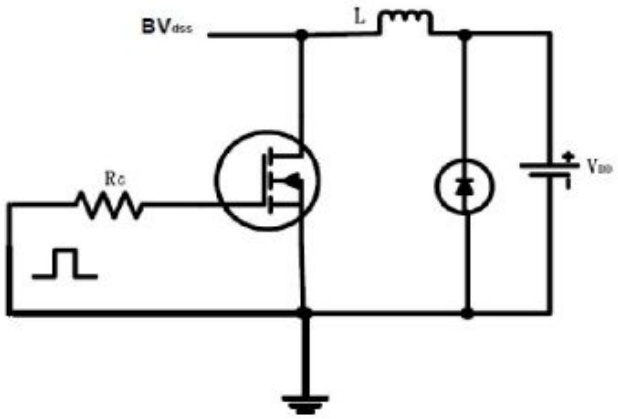
符号	参数	最大值	单位
I_D @ T_C = 25°C	连续的漏极电流，V_{GS} @ 10V(Silicon Limited)	5	A
I_D @ T_C = 100°C	连续的漏极电流，V_{GS} @ 10V	4	
I_{DM}	漏极脉冲电流	20	
P_D @T_C = 25°C	功耗	1.4	W
V_{DS}	漏极—源极电压	20	V
V_{GS}	栅极—源极电压	±12	V
T_J T_{STG}	工作及存储温度范围	-55 to +150	℃

电气特性（T_C = 25°C）

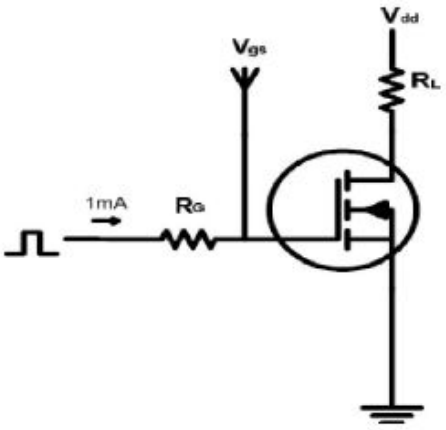
符号	参数	Conditions	最小值	典型值	最大值	单位
V(BR)DSS	漏极到源极关断电压	VGS = 0V, ID = 250μA	20	—	—	V
RDS(on)	静态漏极源极导通电阻	VGS=4.5V,ID = 1A	—	13	18	mΩ
		VGS=2.5V,ID=1A		15	22	
VGS(th)	栅极阈值电压	VDS = VGS, ID = 250μA	0.45	0.6	1.0	V
IDSS	漏极源极电流	VDS =16V,VGS = 0V	—	—	1	μA
IGSS	栅极源极电流	VGS =12V	—	—	100	nA
		VGS = -12V	—	—	-100	
VSD	二极管正向电压	IS=8A, VGS=0V	——	0.73	1.3	V
Qg	栅极总电荷	ID = 5A, ID = 5A, VGS = 10V	—	24.1	—	nC
Qgs	栅极到源极电荷		—	1.4	—	
Qgd	栅极到漏极电荷		—	4.2	—	
td(on)	开启延迟时间	VGS=4V, VDS =10V, RL=2.86Ω,ID = 3.5A	—	5.3		nS
tr	上升时间		—	18.2	—	
td(off)	关断延迟时间		—	25	—	
tf	下降时间		—	3	—	
Ciss	输入电容	VGS = 0V, VDS =10V, *f* = 1MHz	—	681	—	pF
Coss	输出电容		—	124	—	
Crss	反向传输电容		—	117	—	

测试电路和波形

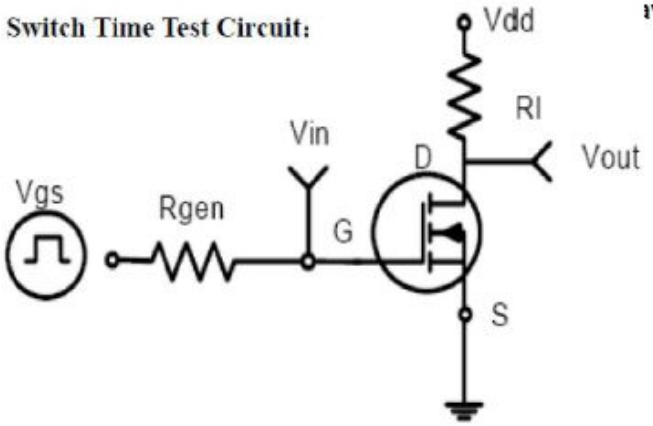
EAS test circuits:



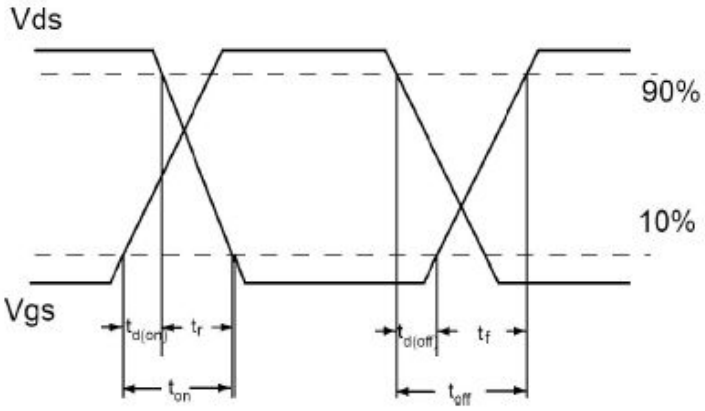
Gate charge test circuit:



Switch Time Test Circuit:



ıveforms:



典型的电气和热特性

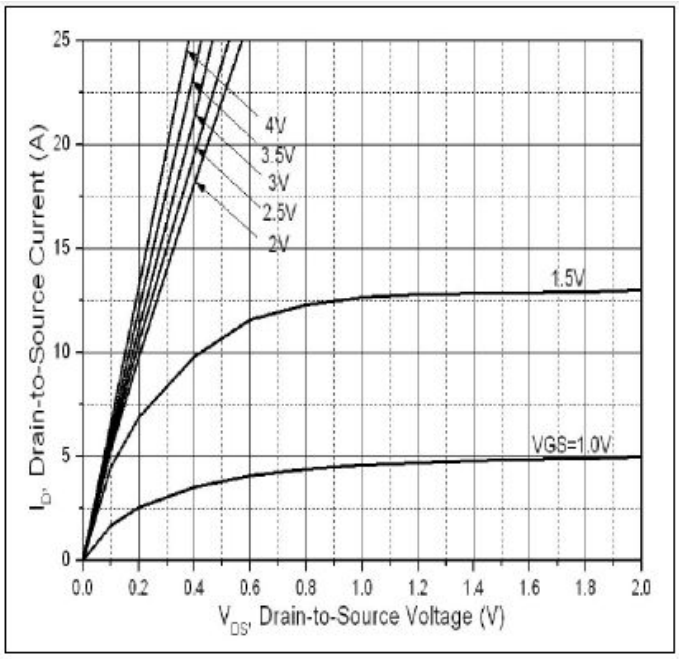


Figure 1: Typical Output Characteristics

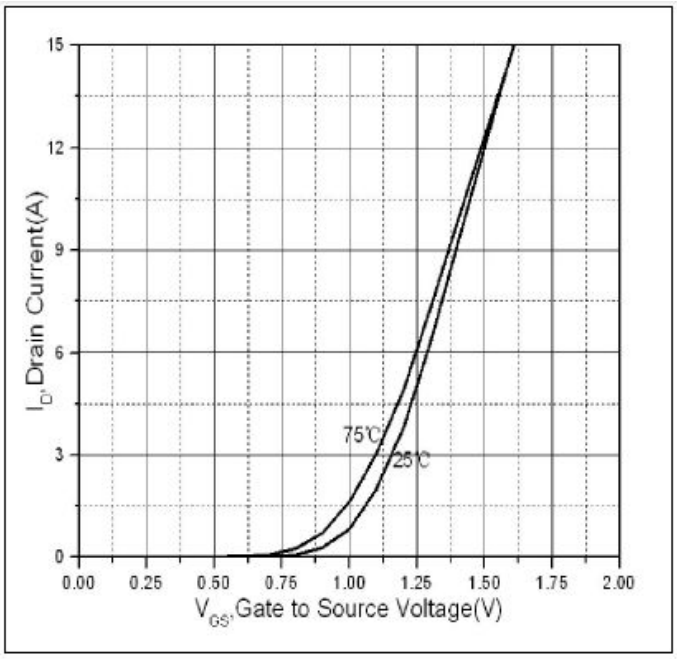


Figure 2. Typical Transfer Characteristics

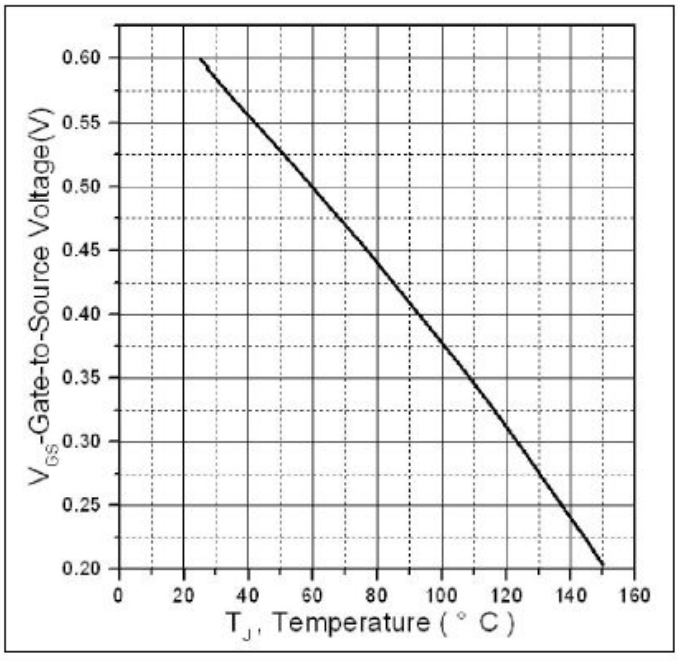


Figure 3. Gate to source cut-off oltage

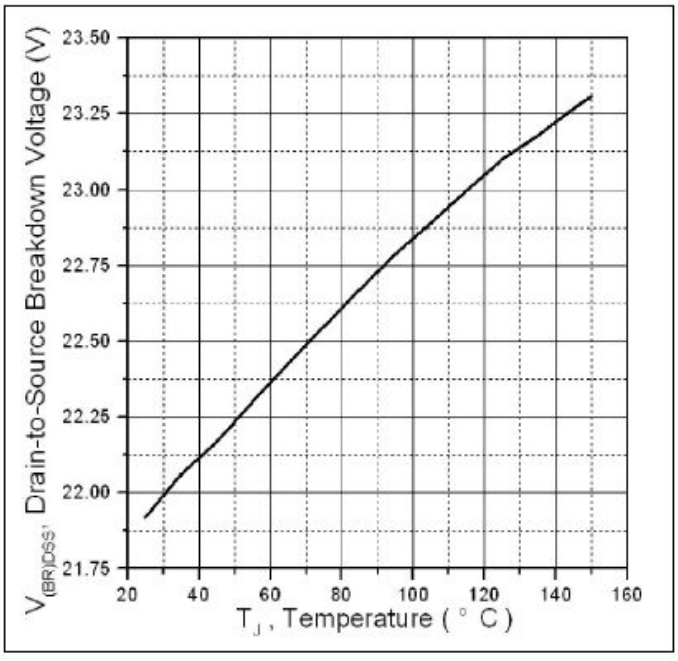


Figure 4: Drain-to-Source Breakdown Voltage vs. Temperature

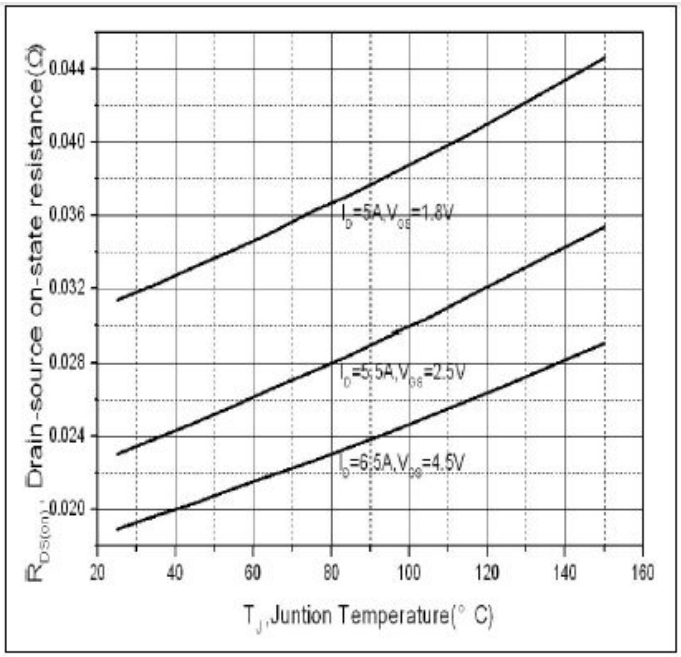


Figure 5. Normalized On-Resistance Vs. Case Temperature

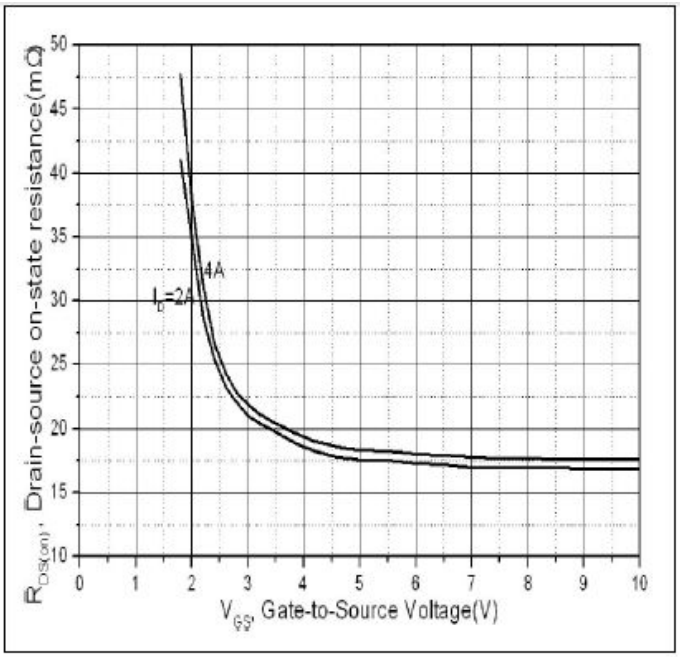


Figure 6. Normalized On-Resistance Vs. Gate to Source voltage

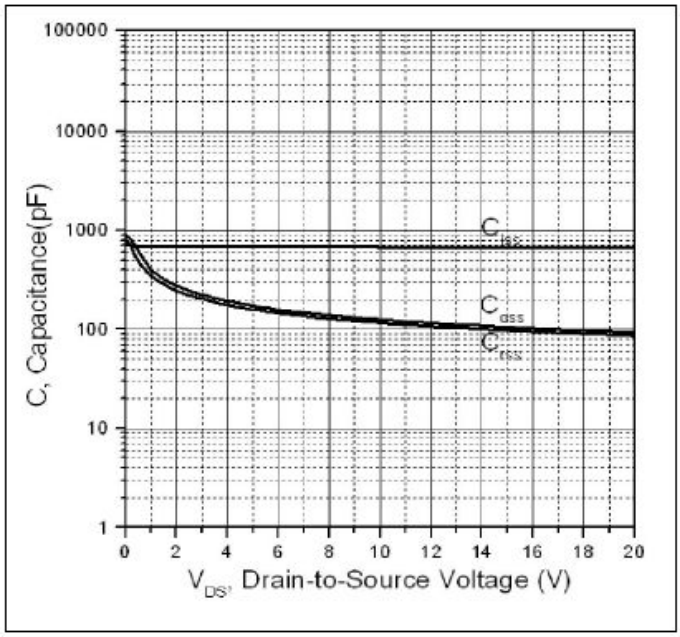


Figure 7. Typical Capacitance Vs. Drain-to-Source Voltage

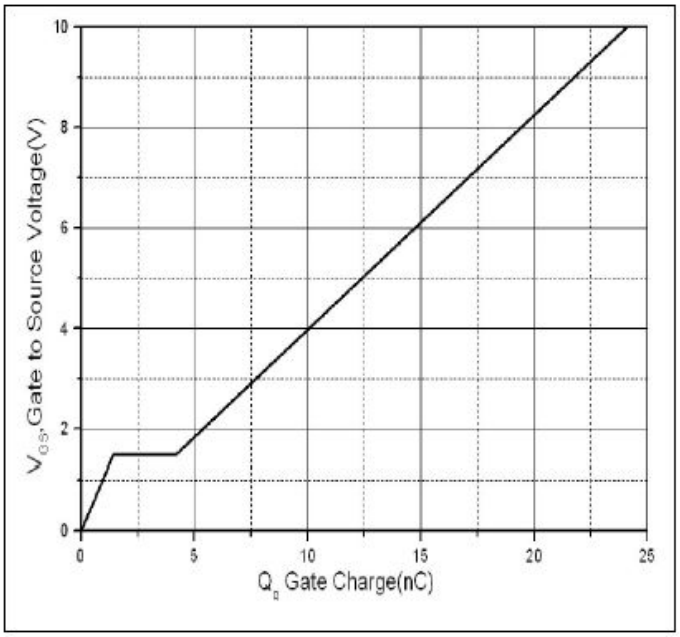


Figure 8. Gate-Charge Characteristics

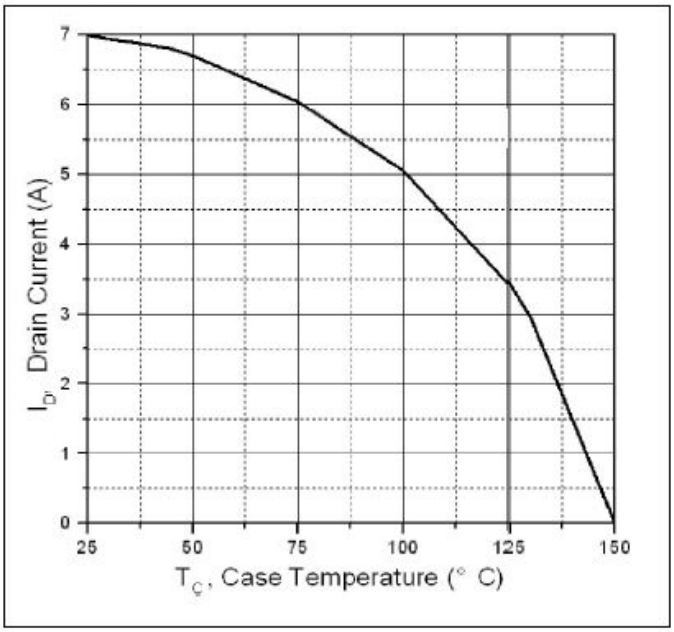


Figure9. Maximum Drain Current Vs. Case Temperature

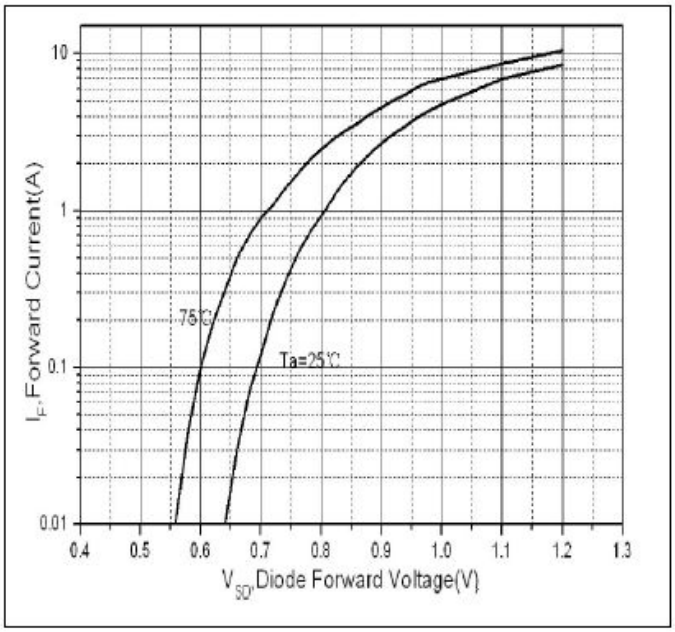


Figure10. Forward Current Vs. Diode Forward Voltage

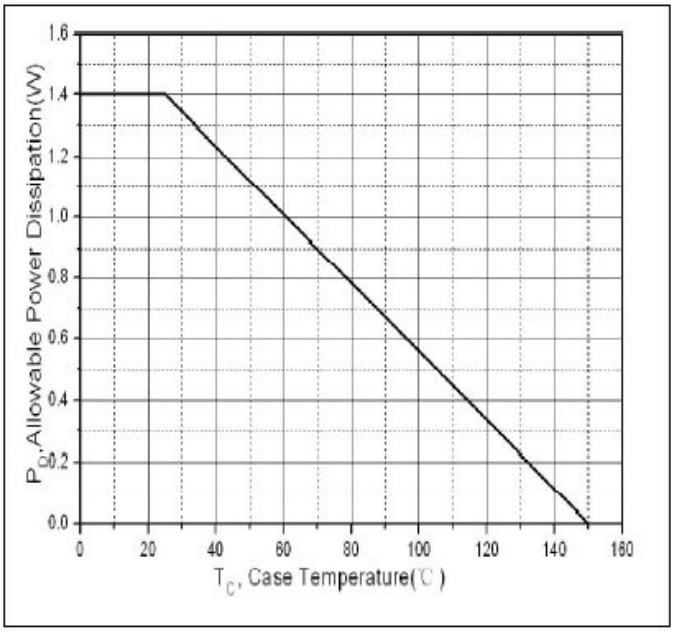
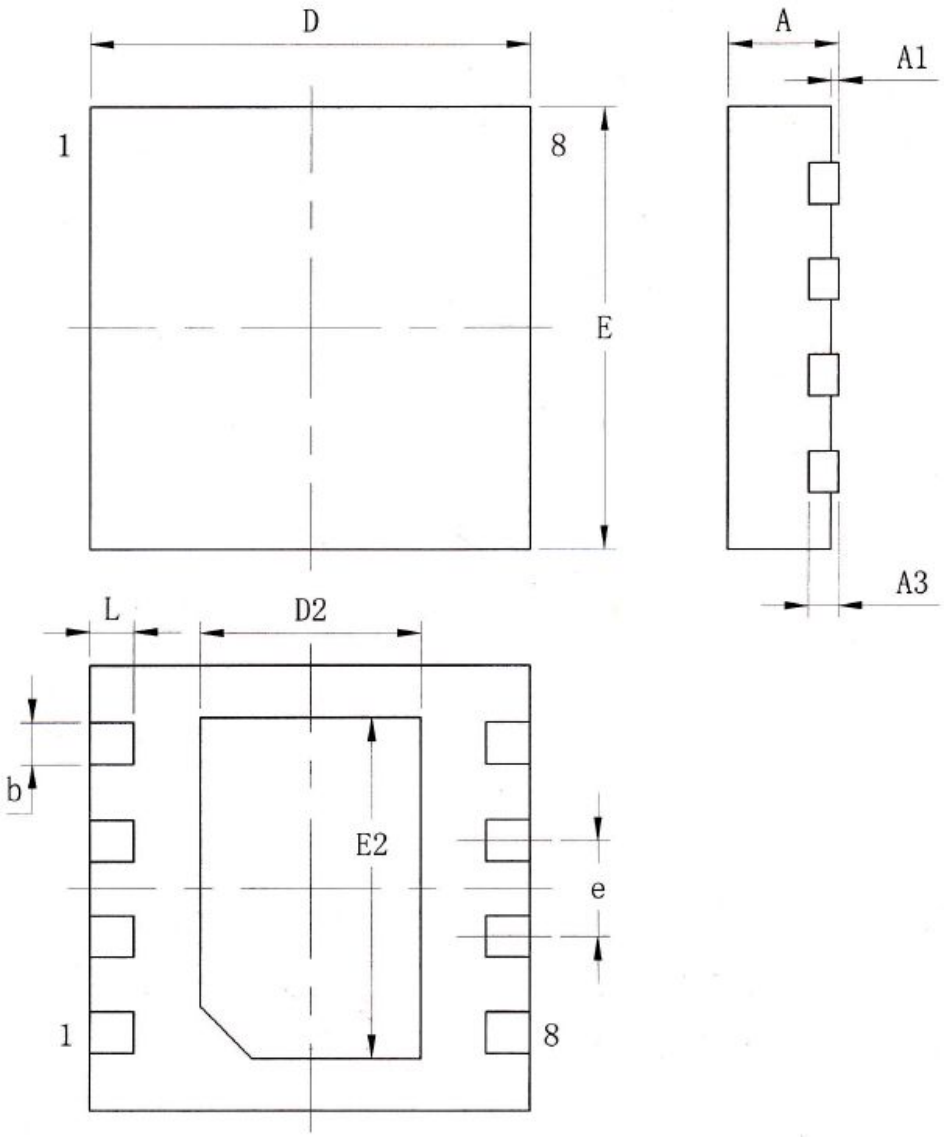


Figure11. Power Dissipation Vs. Case Temperature

封装信息



标注	最小值	标准值	最大值	标注	最小值	标准值	最大值
A	0.70	0.75	0.80	E	2.90	3.00	3.10
A1	——	——	0.05	D2	1.40	1.50	1.60
A3	0.203 REF			E2	2.20	2.30	2.40
b	0.23	0.28	0.33	e	0.65 TYP		
D	2.90	3.00	3.10	L	0.25	0.30	0.35