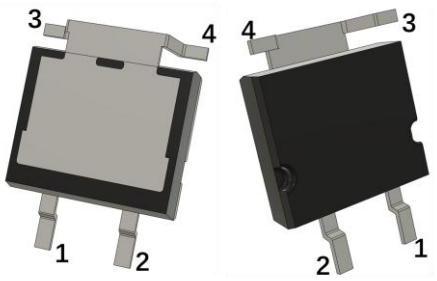
DATA SHEET

海明微半导体
HIMINGWAY

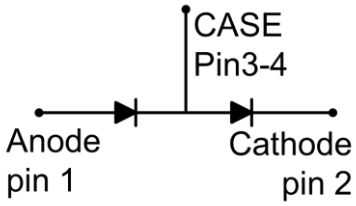
2H30160H6A

1600V-30A RD Half Bridge Module



Product features/产品特点

- Top side cooling technology
  顶部散热技术
- Photo glass technology
  光阻技术
- Low conduction loss due to low V_F
  低导通损耗缘于低正向压降
- High surge current capability
  高浪涌电流承受能力
- High junction operating temperature capability $T_{j.max}$=175°C
  高结温工作能力，最高结温 $T_{j.max}$=175°C
- Halogen free, RoHS compliant
  无卤，符合RoHS



Applications/应用领域

- Input rectifier
  输入整流器
- Power factor correction (PFC)
  功率因素校正

Key performance parameters/关键性能参数

Parameter/参数	Value/值	Unit/单位
V_{DC}	1600	V
I_F (@T_C=80°C)	30	A
$V_{F.MAX}$ (@30A)	1.2	V

Package parameters/封装信息

Type/型号	Package/封装	Marking/标识	Packaging method/包装方式
2H30160H6A	TSC263-4L	2H30160A	Tape and Reel/卷带包装

1. Maximum ratings at T_j=25°C, unless otherwise specified.

最大额定值默认T_j=25°C除非另有说明

Table 1 Maximum ratings/最大额定值

Parameter 参数	Symbol 符号	Test conditions 测试条件	Value 值	Unit 单位
Repetitive peak reverse voltage 重复峰值反向电压	V_{RRM}		1600	V
Crest working reverse voltage 最高工作反向电压	V_{RWM}		1600	V
Average Forward Current 平均正向电流	$I_{F.AV}$	T_C=25°C	60	A
		T_C=80°C	30	
Surge non-repetitive forward current, sine halfwave 浪涌非重复峰值正向电流，正弦半波	$I_{F.SM}$	@60Hz	500	A
Power dissipation 总耗散功率	P_{tot}	T_j=25°C	483	W
		T_j=100°C	242	

2. Thermal characteristics
热特性

Table 2 Thermal characteristics/热特性

Parameter 参数	Symbol 符号	Test conditions 测试条件	Value/值			Unit 单位
			Min.	Typ.	Max.	
Storage temperature 存储温度	T_{stg}		-55		150	°C
Operating junction temperature 工作结温	T_j		-55		175	°C
Thermal resistance, junction-case 结-壳热阻	$R_{th(j-c)}$				0.31	K/W
Thermal resistance, junction-ambient 结-环境热阻	$R_{th(j-a)}$				61	K/W
Soldering temperature, reflow solderin 焊接温度，回流焊	T_{sold}	reflow MSL1			260	°C

3. Electrical characteristics at T_j=25°C, unless otherwise specified.

电气特性默认T_j=25°C除非另有说明

Table 3 Static characteristics/静态特性

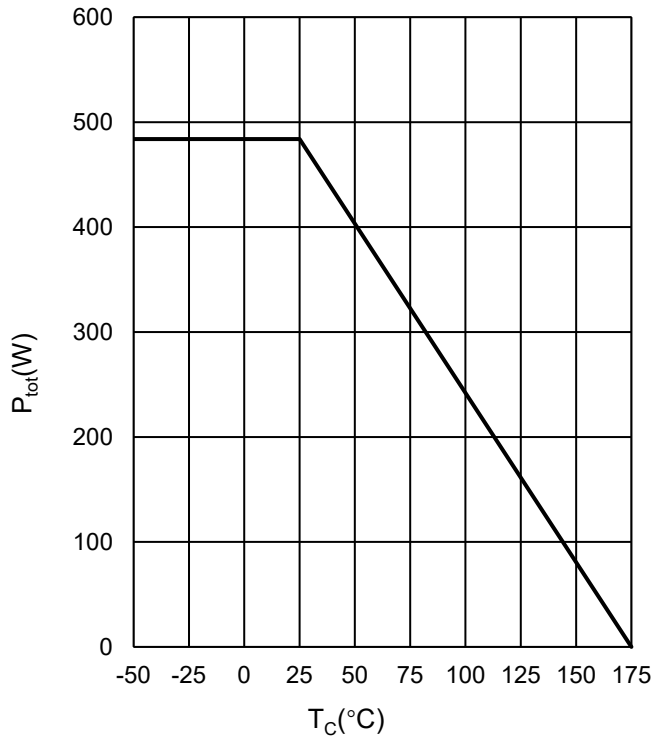
Parameter 参数	Symbol 符号	Test conditions 测试条件	Value/值			Unit 单位
			Min.	Typ.	Max.	
DC blocking voltage 直流阻断电压	V_{DC}	I_R=10μA	1600			V
Forward voltage 正向压降	V_F	I_F=30A			1.2	V
Reverse leakage current 反向漏电流	I_R	V_R=1600V			2.0	μA

Table 4 Dynamic characteristics/动态特性

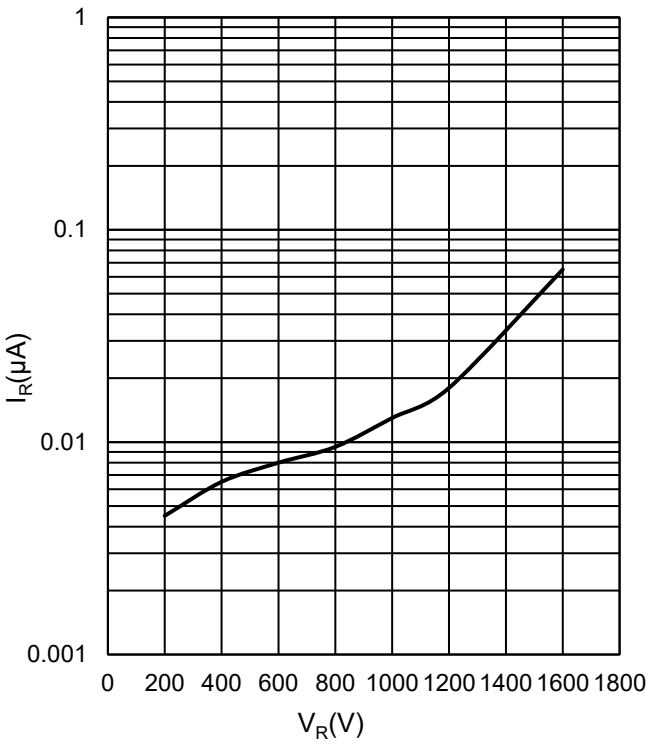
Parameter 参数	Symbol 符号	Test conditions 测试条件	Value/值			Unit 单位
			Min.	Typ.	Max.	
Recovered recovery time 反向恢复时间	t_{rr}	V_R=800V,I_F=0.5A	1500			nS

4. Electrical characteristics diagrams
电气特性图表

Power dissipation/耗散功率
$P_{tot}=f(T_C)$; @ $R_{th(j-c).MAX}$

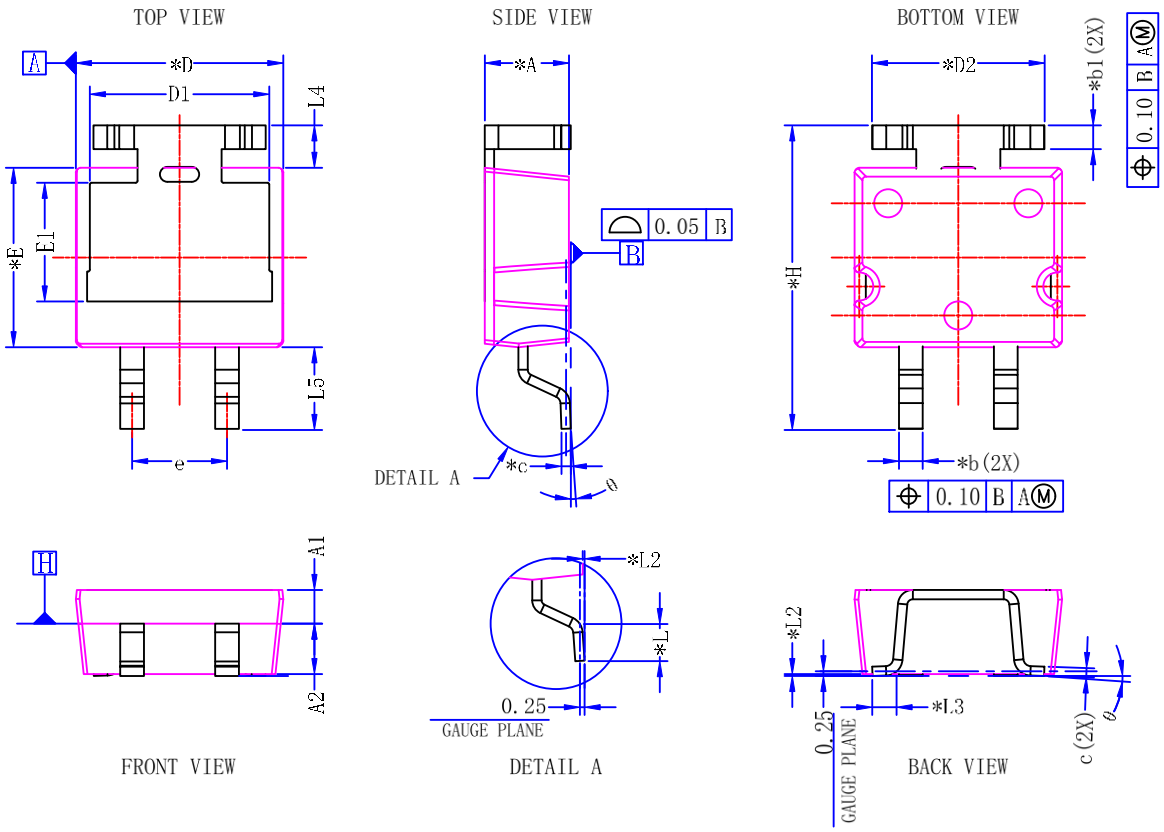


Typ.Reverse current of voltage /典型漏电与电压函数
$I_R=f(V_R)$; T_j=25℃



5. Package outline
封装外形

Figure 1. Outline TSC263-4L, dimensions in mm/TSC263-4L外形尺寸（毫米）



DIM SYMBOL	MIN.	TYP.	MAX.	DIM SYMBOL	MIN.	TYP.	MAX.
*A	4.40	4.50	4.60	*E	9.45	9.60	9.75
A1	1.75	1.80	1.85	E1	6.15	6.35	6.55
A2	2.65	2.70	2.75	e	5.08 BSC		
*b	1.22	1.27	1.32	*H	16.02	16.22	16.42
*b1	1.22	1.27	1.32	*L	1.70	1.90	2.10
*c	0.45	0.50	0.55	*L2	0.05	0.10	0.15
*D	10.95	11.10	11.25	*L3	1.10	1.30	1.50
D1	9.50	9.60	9.70	L4	2.27 REF		
*D2	9.00	9.20	9.40	L5	4.15	4.35	4.55
				Θ	0°	-	8°

NOTES:
- ALL DIMENSIONS ARE IN MILLIMETER. ANGLES ARE IN DEGREE.
- DIMENSION "D" DOES NOT INCLUDE INTERLEAD FLASH OR PROTRUSIONS. INTERLEAD FLASH SHALL NOT EXCEED 0.150 MM PER SIDE. DIMENSION "E" DOES NOT INCLUDE MOLD FLASH, GATE BURRS, THE GATE BURRS SHALL NOT EXCEED 0.15MM.
- DIMENSIONS D AND E ARE DETERMINED AT THE OUTERMOST EXTREMES OF THE PLASTIC BODY EXCLUSIVE OF MOLD FLASH, TIE BAR BURRS, GATE BURRS AND INTERLEAD FLASH, BUT INCLUDING ANY MISMATCH BETWEEN THE TOP AND BOTTOM OF THE PLASTIC BODY.

注:
- 所有尺寸均以毫米为单位。角度以度为单位。
- 尺寸 D 不包括引脚间飞边或突出物。引脚间飞边在每侧不得超过0.15mm。尺寸 E 不包括模具飞边、浇口残余物，浇口残余物不得超过0.15mm。
- 尺寸 D、E 是在塑胶本体的最外极限确定的，不包括模具飞边、连接条残余、浇口残余和引脚间飞边，但包括塑胶本体顶部和底部之间可能存在的任何不匹配或错位。

6. Revision history
修订历史

Table 5 Date and version number/日期与版本号

Date日期	Revision版本	Changes更改内容
2025-11-16	Rev. G 1.0	Target Datasheet（目标规格书）

7. Matters needing attention
注意事项

Appendix 1. Important Technical Guidance, Application Policy, and Copyright Notice/重要技术指南、应用规范与版权声明

[Data and Design Guidance]

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