HD60DB12M1H1-L12

矽迪半导体(苏州)有限公司

Final datasheet

1200V Silicon Carbide Double Parallel Diodes Module

Features

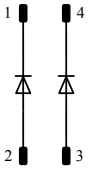
- High speed switching
- Very low switching loss
- Temperature independent performance
- Zero reverse recovery current

Benefits

- Cooling effort reduction
- Efficiency improvement
- Reduced cooling requirements
- Increased power density

Potential applications

- Anti-Parallel diode
- PV string inverters
- Solar power optimizer
- Induction heating



1 Package

Table 1 请选择Maxium rated values

Parameter	Symbol	Note or test condition	Values	Unit	Note	
暂无数据						

请输入Note

Table2 请选择Characteristic values

Parameter	Symbol	Note or test condition		Values			Unit	Note	
				Min.	Typ.	Max.			
Storage temperature	T_{stg}			-40		125	℃		
Operation temperature	T_{op}			-40		175	℃		
Isolation voltage	V_{ISOL}	I_{SOL} ⩽ 1 mA	50/60 Hz, 1 sec.	3000			V		
			50/60 Hz, 1 minute	2500					
Weight	G				30		g		
Internal isolation	DBC	Basic insulation (class 1, IEC 61140)			Al_2O_3				

请输入note

SiC SBD

Table 1 Maximum ratings

Parameter	Symbol	Note or test condition		Values	Unit	Note
Peak repetitive reverse voltage	V_{RRM}			1200	V	
Peak reverse surge voltage	V_{RSM}			1200	V	
Reverse voltage	V_R			1200	V	
Continuous forward current	I_F		T_C = 25 ℃	120	A	
			T_C = 120 ℃	60		
Non repetitive forward surge current	I_{FSM}	t_p = 10 ms, Half sine pulse		438	A	
Total power dissipation	P_D	T_C = 25 ℃		258	W	

请输入Note

Table2 Electrical characteristics

Parameter	Symbol	Note or test condition		Values			Unit	Note
				Min.	Typ.	Max.		
DC blocking voltage	V_{DC}	I_R = 200 μA		1200			V	
Forward voltage	V_F	I_F = 60 A	T_{vj} = 25 ℃		1.44	1.7	V	Fig.1
			T_{vj} = 175 ℃		2.0422			
Reverse current	I_R	V_R = 1200 V	T_{vj} = 25 ℃		20	300	μA	Fig.2
			T_{vj} = 175 ℃		150	1500		
Total capacitive charge	Q_C	V_R = 800 V			405		nC	Fig.4
Total capacitance	C	Freq = 1 MHz	V_R = 0 V		4616		pF	Fig.3
			V_R = 400 V		303			
			V_R = 800 V		221			
Diode thermal resistance, junction–case(per leg)	$R_{th(j-c)}$				0.58		K/W	Fig.5
Capacitance stored energy	E_C	V_R = 800 V			90		μJ	

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静态特性 (Static Characteristics)

Figure 1. Forward characteristics

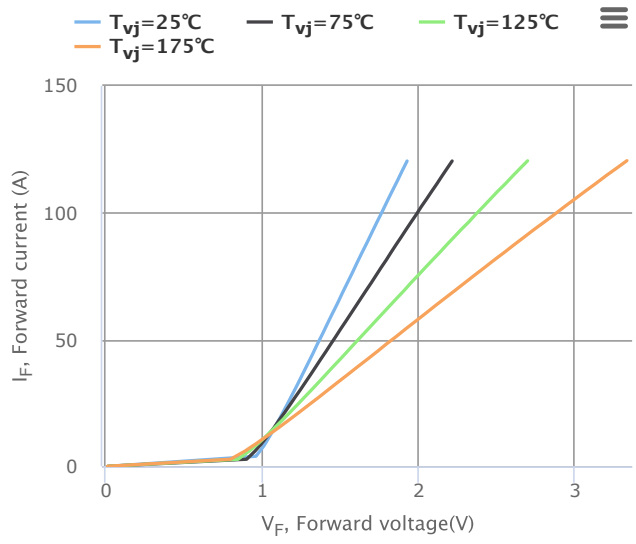


Figure 2. Reverse characteristics

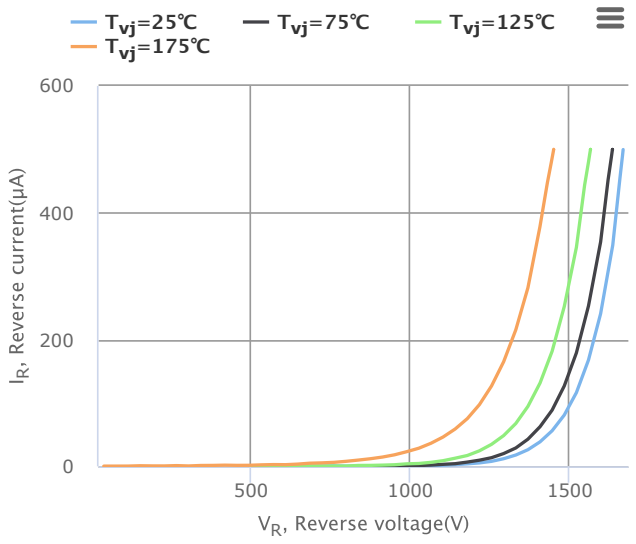
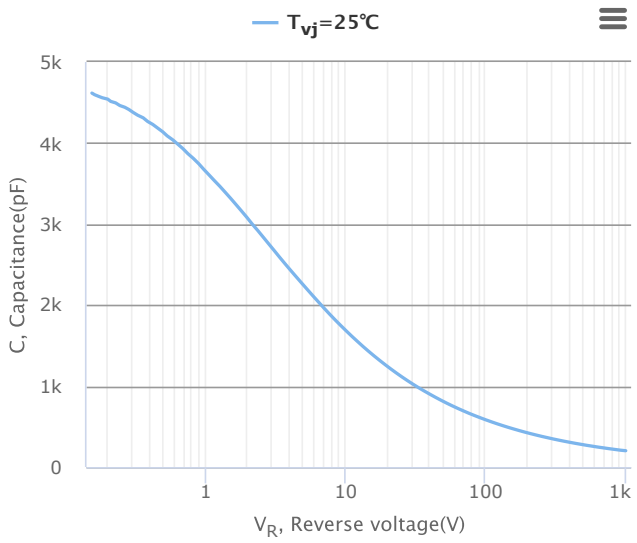
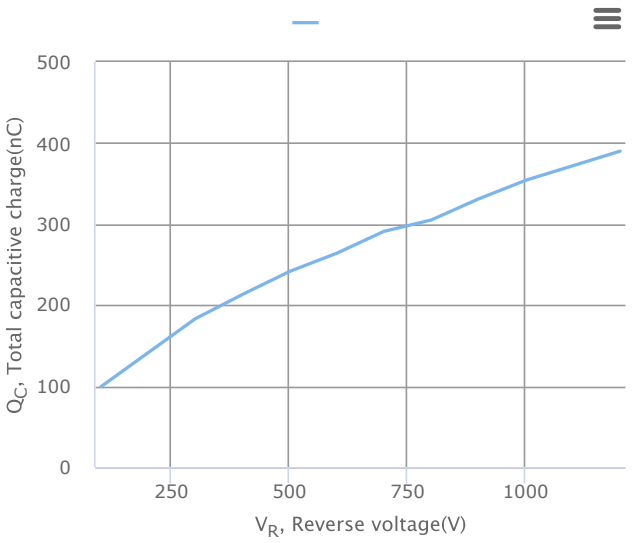


Figure 3. Capacitance vs. reverse voltage

Figure 4. Capacitance charge vs. reverse voltage





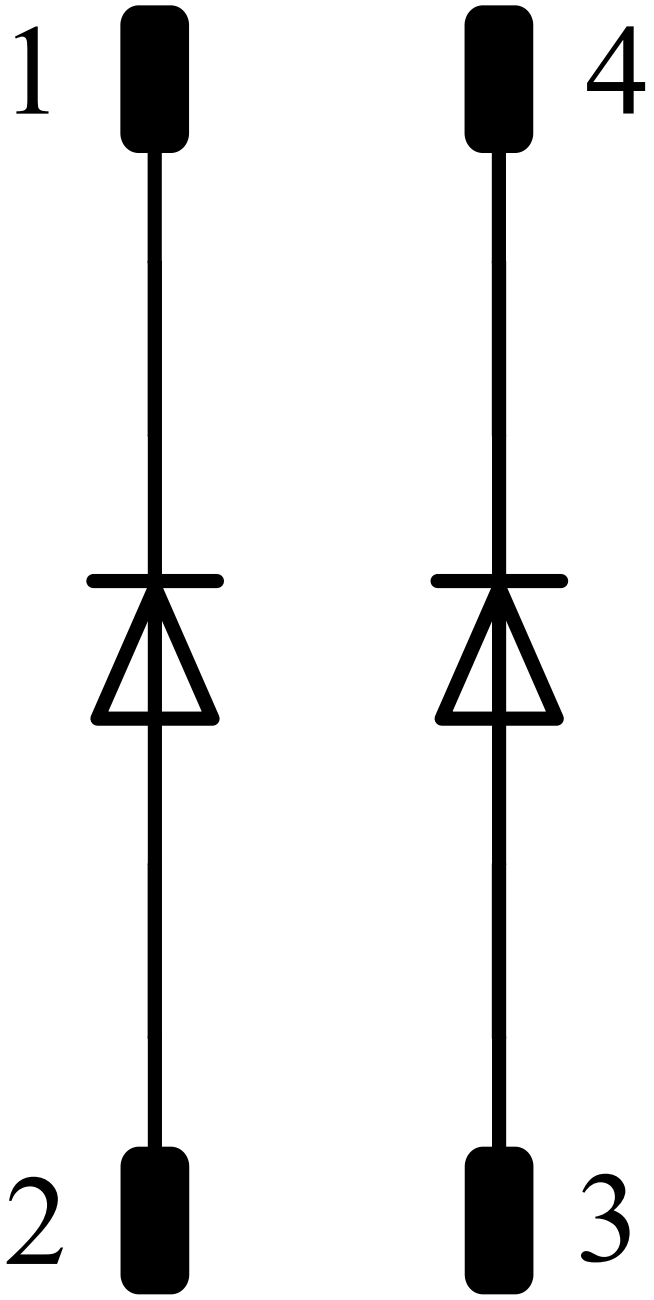
动态特性 (Dynamic Characteristics)

热特性图(Thermal Characteristics)

二极管特性图(Diode Characteristics)

NTC特性图(Ntc Characteristics)

2 Circuit diagram



3 Package outlines