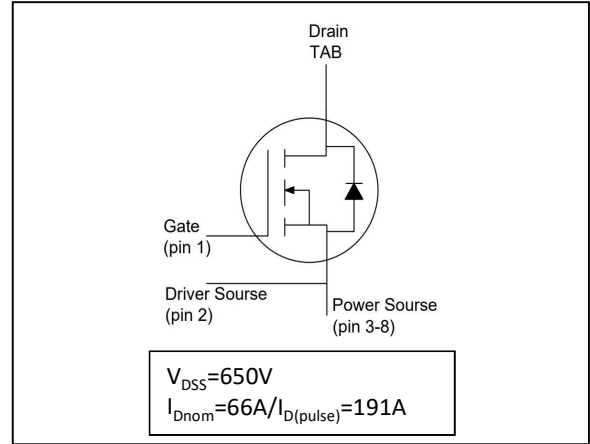
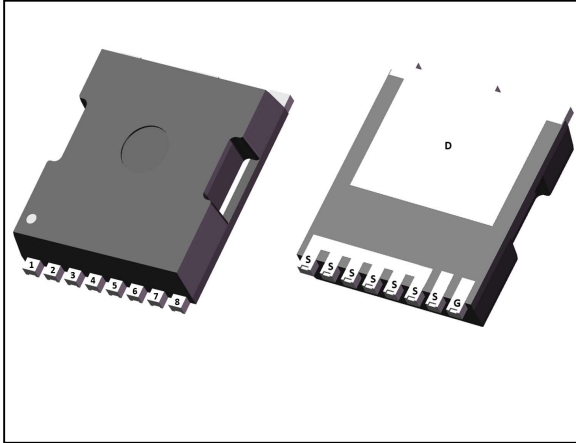


受控文件

650V 30mΩ SiC MOSFET Discrete

650V 30mΩ SiC MOSFET 单管



Features:

- High Blocking Voltage
- High Frequency Switching application
- Low on-resistance
- low reverse recovery

Typical Applications:

- Solar / Wind Inverters
- Motor drives
- Onboard EV Charger
- Energy Storage
- Server
- Telecom
- SMPS
- UPS

产品特性:

- 高击穿电压
- 高频开关应用
- 低通态电阻
- 低反向恢复

典型应用:

- 光伏/风电逆变器
- 电机驱动
- 电动车充电器
- 储能
- 服务器
- 电信
- 开关电源
- 不间断电源

Package / 封装

Item	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
存储温度 Storage Temperature	T_{stg}		-55		150	°C
焊接温度 Soldering temperature	T_{SLD}				260	

MOSFET

Maximum Rated Values / 最大额定值

Item	Symbol	Conditions	Values	Unit	
漏极-源极电压 Drain-source voltage	V_{DSS}	$T_{vj}=25^{\circ}C$	650	V	
栅极-源极电压 Maximum gate-source voltage	V_{GSS}		-4/+18	V	
瞬态栅极-源极电压 Transient gate-source voltage	V_{GSS}	$t_p \leq 10\mu s, D=0.01$	-8/+22	V	
连续漏极直流电流 Continuous DC Drain current	I_D	$V_{GS}=18V$	$T_C=25^{\circ}C$	66	A
			$T_C=100^{\circ}C$	46	
最大脉冲漏极电流 Pulsed Drain current, t_p limited by T_{jmax}	I_{Dpulse}	Pulse width t_p limited by T_{jmax}	191	A	
功率损耗 Power dissipation	P_D		187	W	

Characteristic Values / 特征值

Item	Symbol	Conditions	Values			Unit	
			Min.	Typ.	Max.		
漏极-源极通态电阻 Drain-source on resistance	$R_{DS(on)}$	$I_D=25A, V_{GS}=15V$	$T_{vj}=25^{\circ}C$		30	39	mΩ
			$T_{vj}=175^{\circ}C$		42		
栅极阈值电压 Gate threshold voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=10mA$	$T_{vj}=25^{\circ}C$	1.8	2.6	4.0	V
			$T_{vj}=175^{\circ}C$		1.8		
零栅电压漏极电流 Zero gate voltage drain current	I_{DSS}	$V_{DS}=650V, V_{GS}=0V, T_{vj}=25^{\circ}C$		1	50	μA	
栅极-源极漏电流 Gate-source leakage current	I_{GSS}	$V_{DS}=0V, V_{GS}=18V, T_{vj}=25^{\circ}C$		10	250	nA	
栅极电荷 Gate Charge	Q_G	$V_{DS}=400V, I_D=25A, V_{GS}=15V$		118		nC	
输入电容 Input Capacitance	C_{ies}	$V_{DS}=400V, V_{GE}=0V, f=1MHz$		2800		pF	
输出电容 Output Capacitance	C_{oes}			300			
反向传输电容 Reverse Transfer Capacitance	C_{res}			10			
IGBT结-外壳热阻 IGBT thermal resistance, junction-case	R_{thJC}				0.8	K/W	
工作温度 Operating Temperature	T_{Jop}		-55		175	°C	

Reverse Diode / 反向二极管
Maximum Rated Values / 最大额定值
受控文件

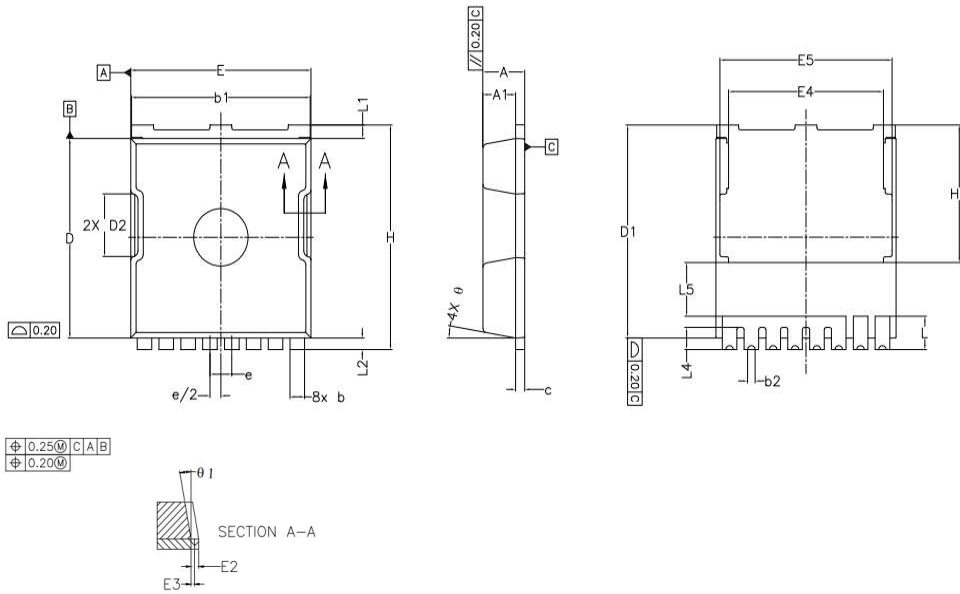
Item	Symbol	Conditions	Values	Unit
连续正向直流电流 Continuous diode forward current	I_{SD}	$V_{GS} = -4V, T_C = 25^{\circ}C$	30	A

Characteristic Values / 特征值

Item	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
正向电压 Forward voltage	V_{SD}	$I_F=12.5A, V_{GE}=-4V$ $T_{vj}=25^{\circ}C$ $T_{vj}=175^{\circ}C$		4.2 3.8		V
反向恢复时间 Reverse recovery time	t_{rr}	$I_F=50A,$ $V_R=400V,$ $T_{vj}=25^{\circ}C$		28		ns
反向恢复峰值电流 Peak reverse recovery current	I_{RRM}			3		A
反向恢复电荷 Reverse recovery charge	Q_{RR}			47		μC
工作温度 Operating Temperature	T_{Jop}		-55		175	$^{\circ}C$

受控文件

Package outlines / 封装尺寸



SYMBOL	Common					
	DIMENSIONS MILLIMETER			DIMENSIONS INCH		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	2.20	2.30	2.40	0.087	0.091	0.094
A1	1.70	1.80	1.90	0.067	0.071	0.075
b	0.70	0.80	0.90	0.028	0.031	0.035
b1	9.70	9.80	9.90	0.382	0.386	0.390
b2	0.36	0.41	0.51	0.014	0.016	0.020
c	0.40	0.50	0.60	0.016	0.020	0.024
D	10.28	10.38	10.48	0.405	0.409	0.413
D1	10.98	11.08	11.18	0.432	0.436	0.440
D2	3.30			0.130		
E	9.80	9.90	10.00	0.386	0.390	0.394
E2	0.30	0.40	0.50	0.012	0.016	0.020
E3	0.15	0.18	0.21	0.006	0.007	0.008
E4	8.50			3.335		
E5	9.46			3.732		
e	1.20 BASIC			0.047 BASIC		
H	11.58	11.68	11.78	0.456	0.460	0.464
H2	7.05	7.15	7.25	0.278	0.281	0.285
L	1.63	1.73	1.83	0.064	0.068	0.072
L1	0.60	0.70	0.80	0.024	0.028	0.031
L2	0.50	0.60	0.70	0.020	0.024	0.028
L4	1.00	1.15	1.30	0.039	0.045	0.051
L5	2.70	2.80	2.90	0.106	0.110	0.114
N	8			8		
theta	10° REF.			10° REF.		
theta 1	10° REF.			10° REF.		