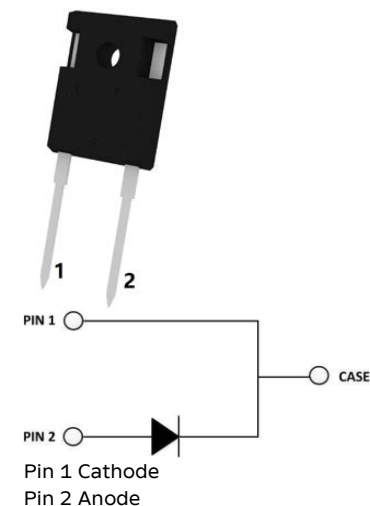


SCD030HA065S22F

3th Generation 650V/30A SiC Schottky Barrier Diode

第三代 650V/30A 碳化硅肖特基二极管

Package Type: TO-247-2L

 $V_{RRM} = 650\text{ V}$ $I_F(135\text{ }^{\circ}\text{C}) = 36\text{ A}$ $V_F(25\text{ }^{\circ}\text{C}) = 1.35\text{ V}$

- High-speed switching performance
高速开关表现
- No reverse recovery
无反向恢复

Maximum ratings 最大额定值^{1 2}

PARAMETER 参数	SYMBOL 符号	CONDITIONS 条件	MIN 最小	MAX 最大	UNIT 单位
Repetitive peak reverse voltage 重复反向峰值电压	V_{RRM}	$T_{vj} = 25\text{ }^{\circ}\text{C}$		650	V
Surge peak reverse voltage 浪涌峰值反向电压	V_{RSM}			650	V
DC reverse voltage 直流反向电压	V_{DC}			650	V
Continuous forward current 连续正向电流	I_F	$T_C = 25\text{ }^{\circ}\text{C}$		75	A
		$T_C = 135\text{ }^{\circ}\text{C}$		36	A
		$T_C = 148\text{ }^{\circ}\text{C}$		30	A
Surge non-repetitive forward current 非重复正向浪涌电流	I_{FSM}	$T_C = 25\text{ }^{\circ}\text{C}$ $t_p = 10\text{ ms}$, half sine pulse		214	A
Repetitive peak forward current 重复峰值正向电流	I_{FRM}	$T_C = 25\text{ }^{\circ}\text{C}$, $t_p = 10\text{ ms}$, half sine wave $D = 0.1$		153	A
Power dissipation 耗散功率	P_{tot}			250	W
i^2t value 安秒平方值	$\int i^2 dt$	$T_C = 25\text{ }^{\circ}\text{C}$, $t_p = 10\text{ ms}$		229	A^2s
Operation junction temperature 工作结温范围	T_{vj}		-55	175	$^{\circ}\text{C}$
Storage temperature 存储温度范围	T_{stg}		-55	175	$^{\circ}\text{C}$



Scan for latest product catalogue 扫描查看最新产品目录

¹ Maximum rated values indicate limits beyond which damage to the device may occur per IEC 60747² 根据标准 IEC 60747 要求，最大额定值表示超过该限值可能会对器件造成损坏² $T_{vj} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified / 除非另有规定, $T_{vj} = 25\text{ }^{\circ}\text{C}$



SiC Diode^{3 4}

PARAMETER 参数	SYMBOL 符号	CONDITIONS 条件	MIN 最小	TYP 典型	MAX 最大	UNIT 单位
DC blocking voltage 直流击穿电压	V_{DC}	$I_R = 100 \mu A$	650			V
Forward voltage 正向导通压降	V_F	$I_F = 30 A$	$T_{vj} = 25 \text{ }^{\circ}C$	1.35	1.50	V
			$T_{vj} = 175 \text{ }^{\circ}C$	1.55	2.20	V
Reverse current 反向电流	I_R	$V_R = 650 V$	$T_{vj} = 25 \text{ }^{\circ}C$	3	90	μA
			$T_{vj} = 175 \text{ }^{\circ}C$	20	180	μA
Total capacitance 总电容	C	f = 1 MHz	$V_R = 0 V$	1677		pF
			$V_R = 200 V$	157		pF
			$V_R = 400 V$	131		pF
Total capacitive charge 总电容电荷	Q_C	$V_R = 400 V (f C(V) dV)$		83		nC
Capacitance stored energy 电容储存能量	E_C	$V_R = 400 V (f Q_C(V) dV)$		12		μJ

Package properties 封装特性

PARAMETER 参数	SYMBOL 符号	CONDITIONS 条件	MIN 最小	TYP 典型	MAX 最大	UNIT 单位
Thermal resistance from junction to case 结到壳热阻	$R_{th(j-c)}$			0.60		K/W

³ Characteristic values according to IEC 60747-2 / 特性值依据 IEC 60747-2

⁴ $T_{vj} = 25 \text{ }^{\circ}C$, unless otherwise specified / 除非另有规定, $T_{vj} = 25 \text{ }^{\circ}C$



Characteristics 特性曲线

Figure 1. Forward characteristics

图 1. 正向特性

$I_F = f(V_F)$

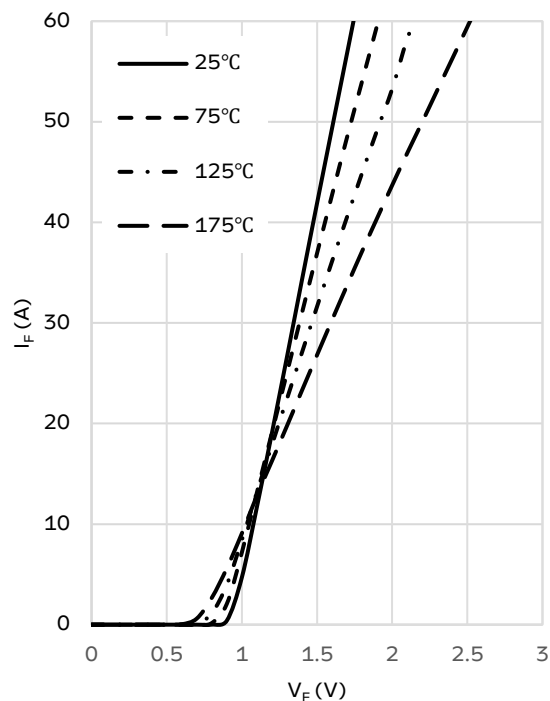


Figure 2. Reverse characteristics

图 2. 反向特性

$I_R = f(V_R)$

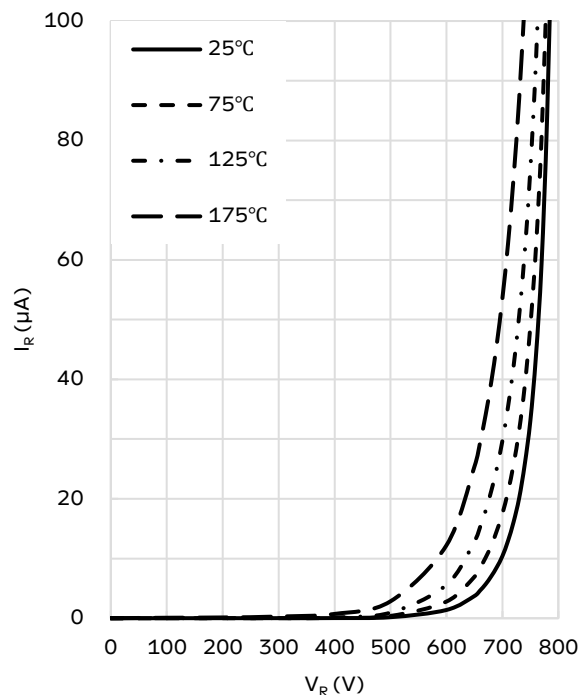


Figure 3. Current derating

图 3. 电流降额

$I_{F(peak)} = f(T_C)$

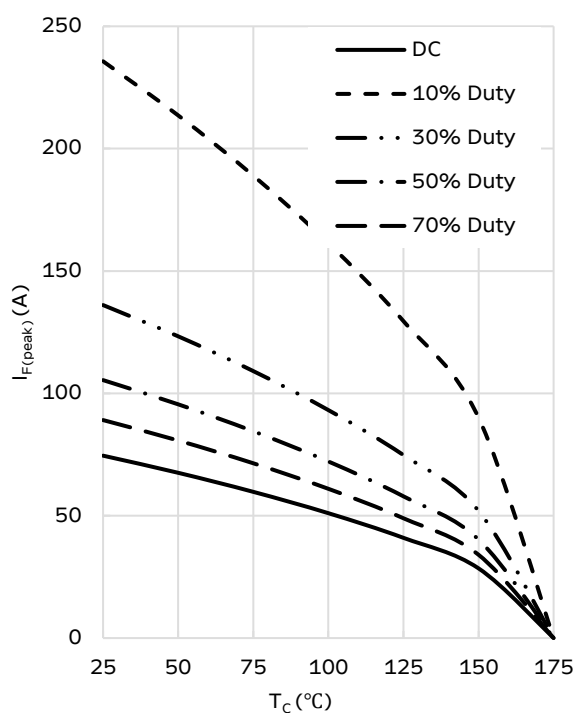


Figure 4. Power derating

图 4. 功率降额

$P_{tot} = f(T_C)$

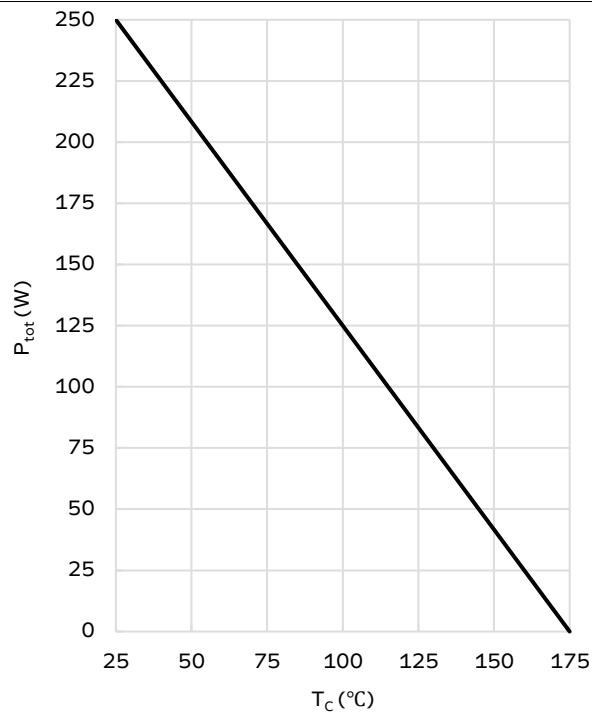


Figure 5. Capacitance vs. reverse voltage

图 5. 电容 vs 反向电压

$$C = f(V_R)$$

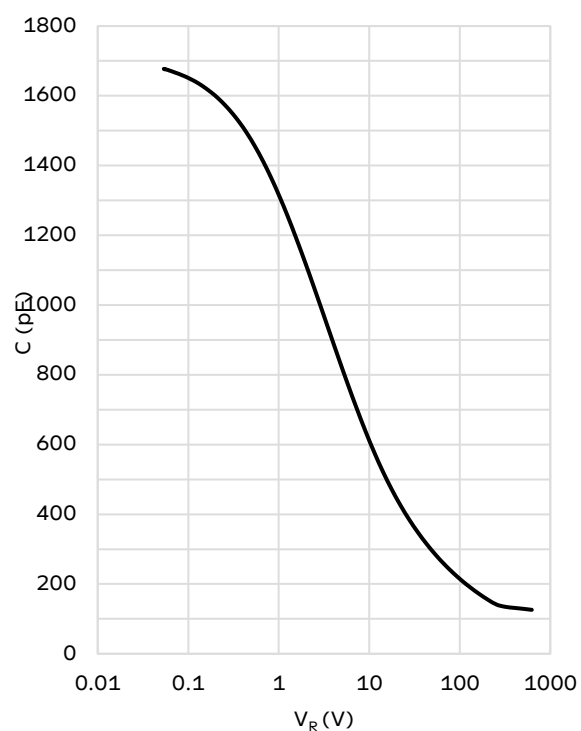


Figure 6. Total capacitance charge vs. reverse voltage

图 6. 总电容电荷 vs 反向电压

$$Q_C = f(V_R)$$

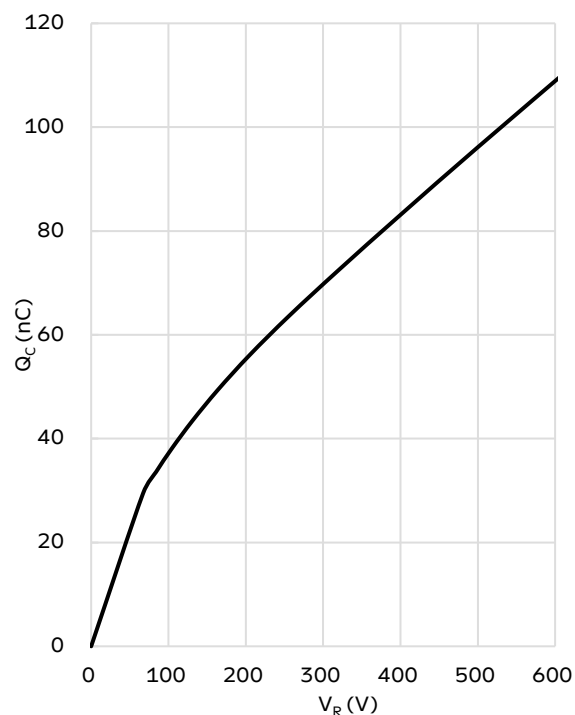


Figure 7. Capacitance stored energy

图 7. 电容储存能量

$$E_C = f(V_R)$$

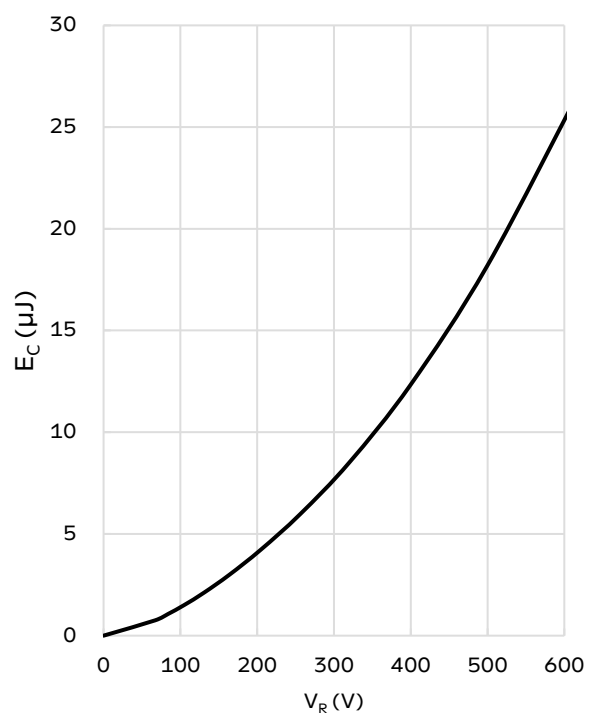
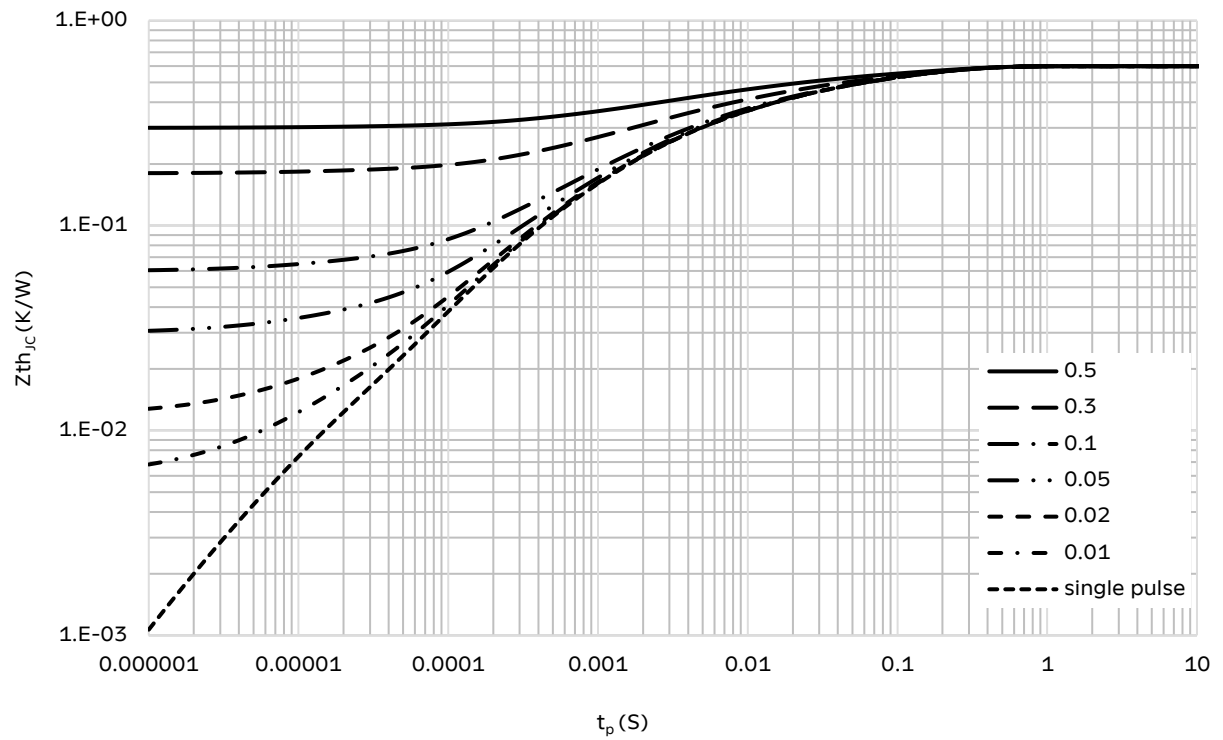


Figure 8. Transient thermal impedance (Junction - Case)

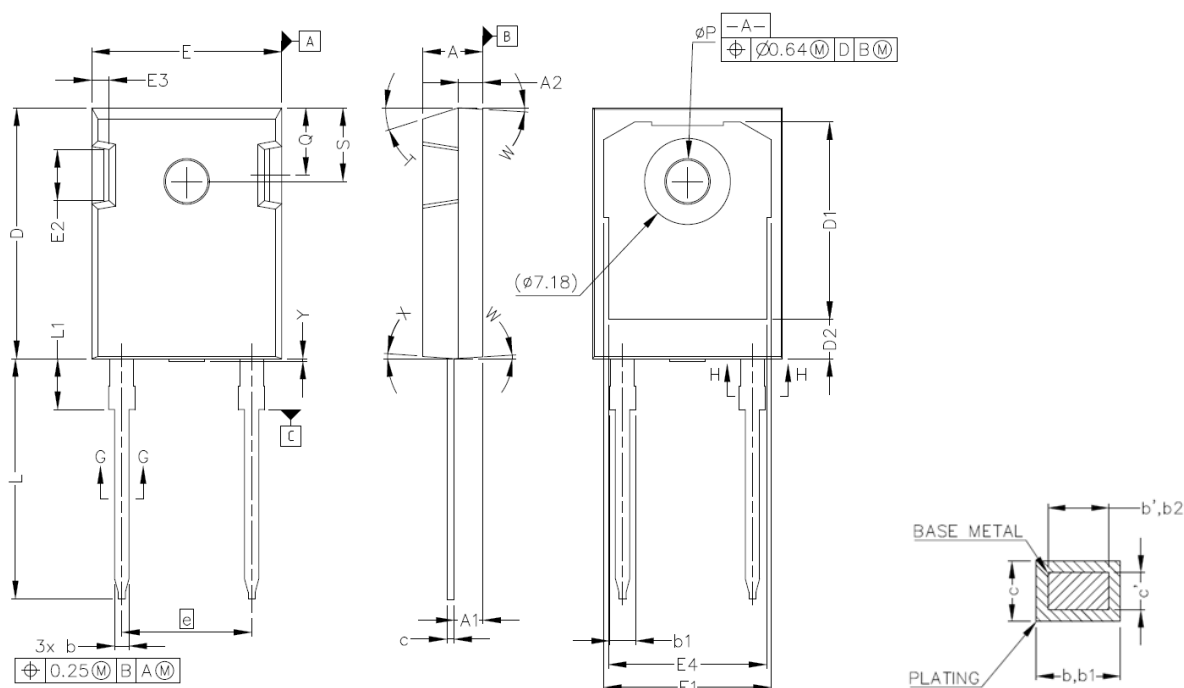
图 8. 瞬态热阻

$$Z_{th,jc} = f(t_p)$$



Outline drawing 外形图

Marking SCDS22F030HA065



Sym- bol	Dimensions In Mil- limeters	
	Min.	Max.
A	4.83	5.21
A1	2.29	2.54
A2	1.91	2.16
b'	1.07	1.28
b	1.07	1.33
b1	1.91	2.41
b2	1.91	2.16
c'	0.55	0.65
c	0.55	0.68
D	20.80	21.10
D1	16.25	17.35
D2	2.86	3.16
E	15.75	16.13
E1	13.10	14.15

Sym- bol	Dimensions In Mil- limeters	
	Min.	Max.
E2	3.68	5.10
E3	1.00	1.90
E4	12.38	13.43
e	10.88 BSC	
L	19.81	20.32
L1	4.10	4.40
ΦP	3.51	3.65
Q	5.49	6.00
s	6.04	6.30
T	17.5° REF	
W	3.5° REF	
X	4° REF	
Y	0	0.50

This is an electrostatic sensitive device. 本产品对静电特别敏感.

This product has been designed and qualified for Industrial Level. 本产品的设计符合工业级标准.

Note: All dimensions are in mm



Ordering Information 订购信息

OPTION 选项		ARTICLE NUMBER 商品编号
Qualification grade	Industrial (F)	SCD030HA065S22F
Packaging Method 包装方式	Tube (_P20)	SCD030HA065S22F_P20

Revision History 修订历史

Release 发布	Version 版本	Description 描述
2026-07-30	v1.0	Preliminary Datasheet 初始规格书