

VRRM	IF ( TC≤135°C)	QC
650V	8.5A	18nC

**Applications:**

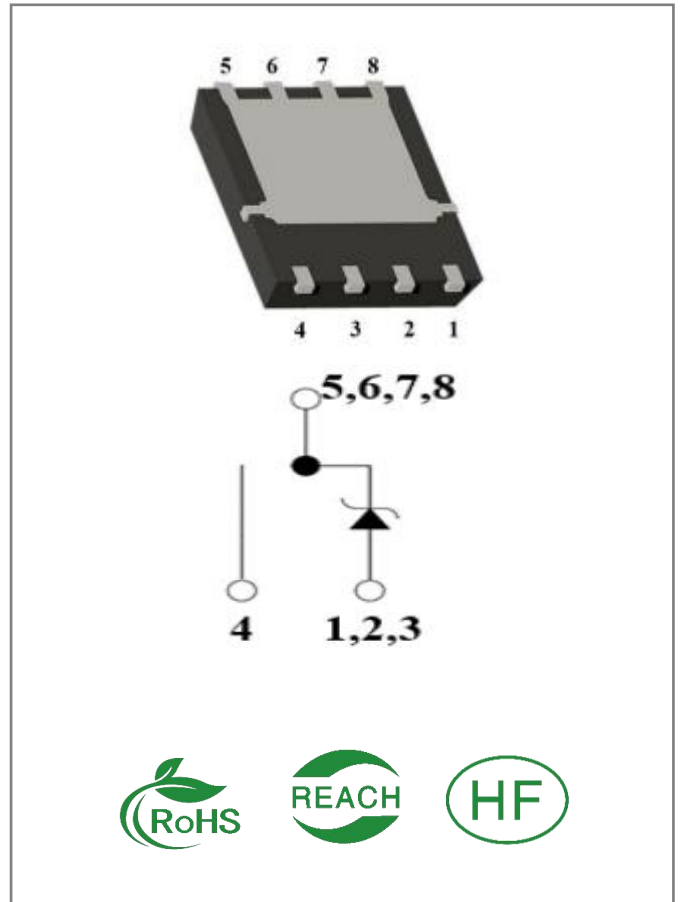
- Switch Mode Power Supplies
- Power Factor Correction
- Motor drive, PV Inverter, Wind Power Station

**Features:**

- Zero Reverse Recovery Current
- Zero Forward Recovery Voltage
- Positive Temperature Coefficient on VF
- Temperature-independent Switching
- 175°C Operating Junction Temperature

**Benefits:**

- Replace Bipolar with Unipolar Device
- Reduction of Heat Sink Size
- Parallel Devices Without Thermal Runaway
- Essentially No Switching Losses



**Ordering Information**

Part Number	Package	Marking	Packing	Qty.
RSS06065G	DFN5*6	RSS06065G	Tape&reel	5000 PCS

**Maximum Ratings** (T<sub>J</sub>= 25°C unless otherwise specified)

Symbol	Parameter	Value	Unit	Test Conditions	Note
VRRM	Repetitive Peak Reverse Voltage	650	V	TC = 25°C	
VRSM	Surge Peak Reverse Voltage	650	V	TC = 25°C	
VR	DC Blocking Voltage	650	V	TC = 25°C	
IF	Forward Current	18.5 8.5 6	A	TC ≤ 25°C TC ≤ 135°C TC ≤ 150°C	Fig. 3
IFSM	Non-Repetitive Forward Surge Current	70 65	A	TC = 25°C, tp = 10ms, Half Sine Wave TC = 110°C, tp = 10ms, Half Sine Wave	
IFRM	Repetitive Peak Forward Surge Current	55	A	TC = 25°C, tp = 10ms, Half Sine Wave	
Ptot	Power Dissipation	76	W	TC = 25°C	Fig. 4
TC	Maximum Case Temperature	150	°C		
TJ,TSTG	Operating Junction and Storage Temperature	-55 to 175	°C		

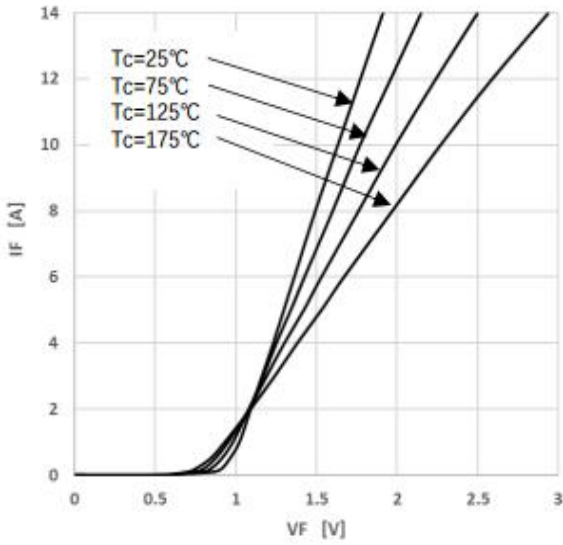
**Electrical Characteristics** (T<sub>J</sub>= 25°C unless otherwise specified)

Symbol	Parameter	Typ.	Max.	Unit	Test Conditions	Note
VF	Forward Voltage	1.34 1.67	1.5 -	V	IF = 6A, T <sub>J</sub> = 25°C IF = 6A, T <sub>J</sub> = 175°C	Fig.1
IR	Reverse Current	1.2 4.5	50 -	μA	VR = 650V, T <sub>J</sub> = 25°C VR = 650V, T <sub>J</sub> = 175°C	Fig.2
C	Total Capacitance	261 35 33	/	pF	VR = 1V, T <sub>J</sub> = 25°C, f = 1MHz VR = 200V, T <sub>J</sub> = 25°C, f = 1MHz VR = 400V, T <sub>J</sub> = 25°C, f = 1MHz	Fig.5
QC	Total Capacitive Charge	18	/	nC	VR = 400V,	Fig.6
Ec	Capacitance Stored Energy	2.9		uJ	VR = 400V,	Fig.7

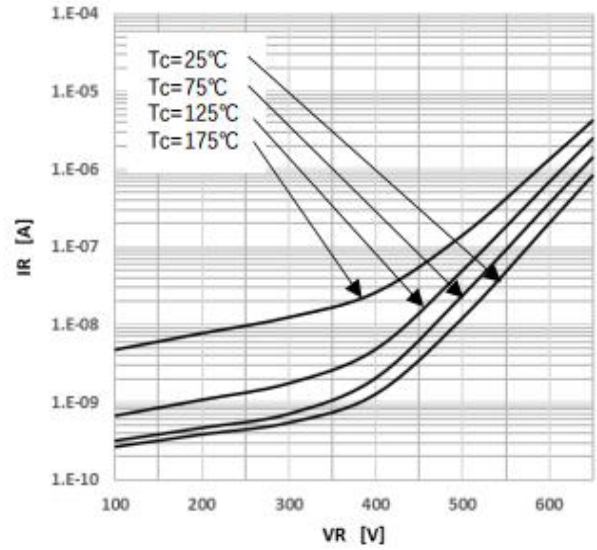
**Thermal Characteristics** (T<sub>J</sub>= 25°C unless otherwise specified)

Symbol	Parameter	Typ.	Unit	Note
RθJC	Thermal Resistance from Junction to Case	1.95	°C/W	Fig.8

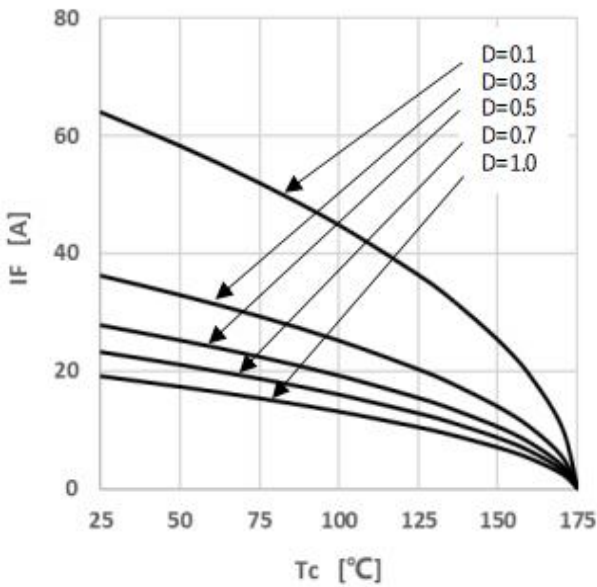
**Typical Feature Curve**



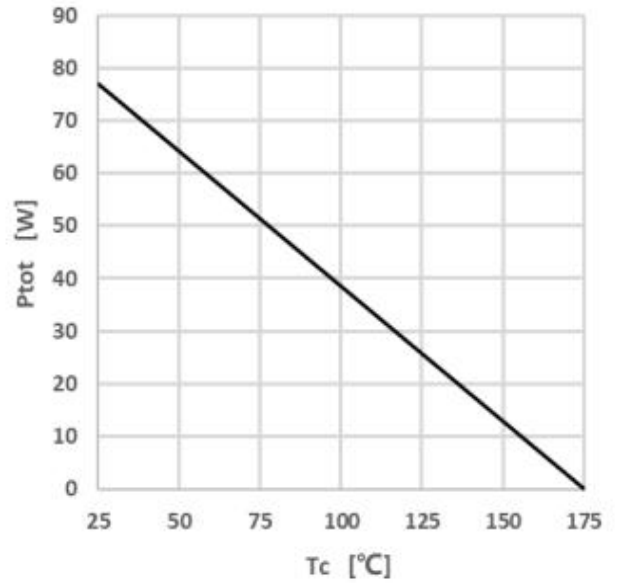
**Figure 1 Forward Characteristics**



**Figure 2 Reverse Characteristics**



**Figure 3 Peak Forward Current Derating**



**Figure 4 Power Dissipation**

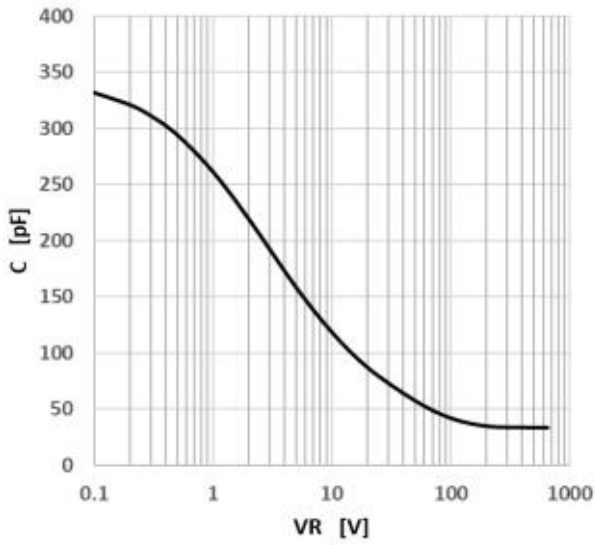


Figure 5 Capacitance vs. Reverse Voltage

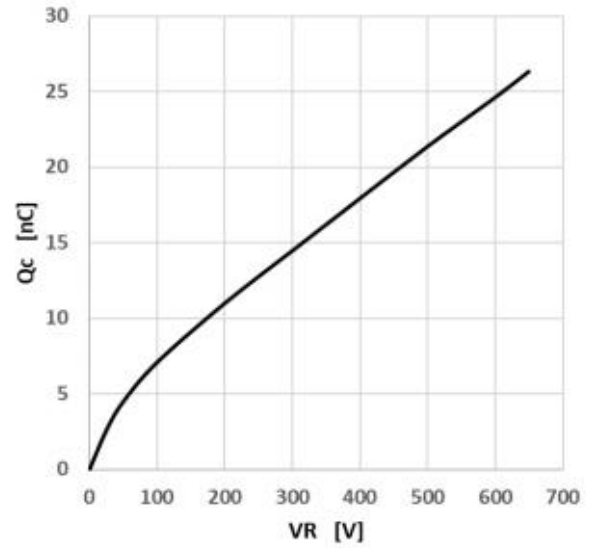


Figure 6 Capacitance Charge vs. Reverse Voltage

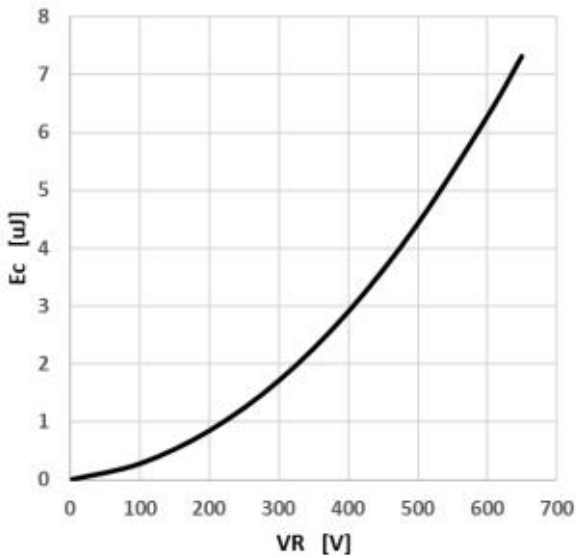


Figure 7 Capacitance Stored Energy

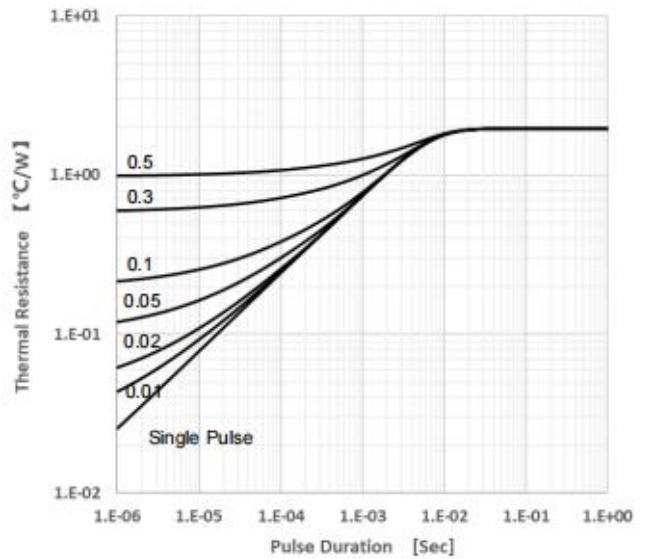
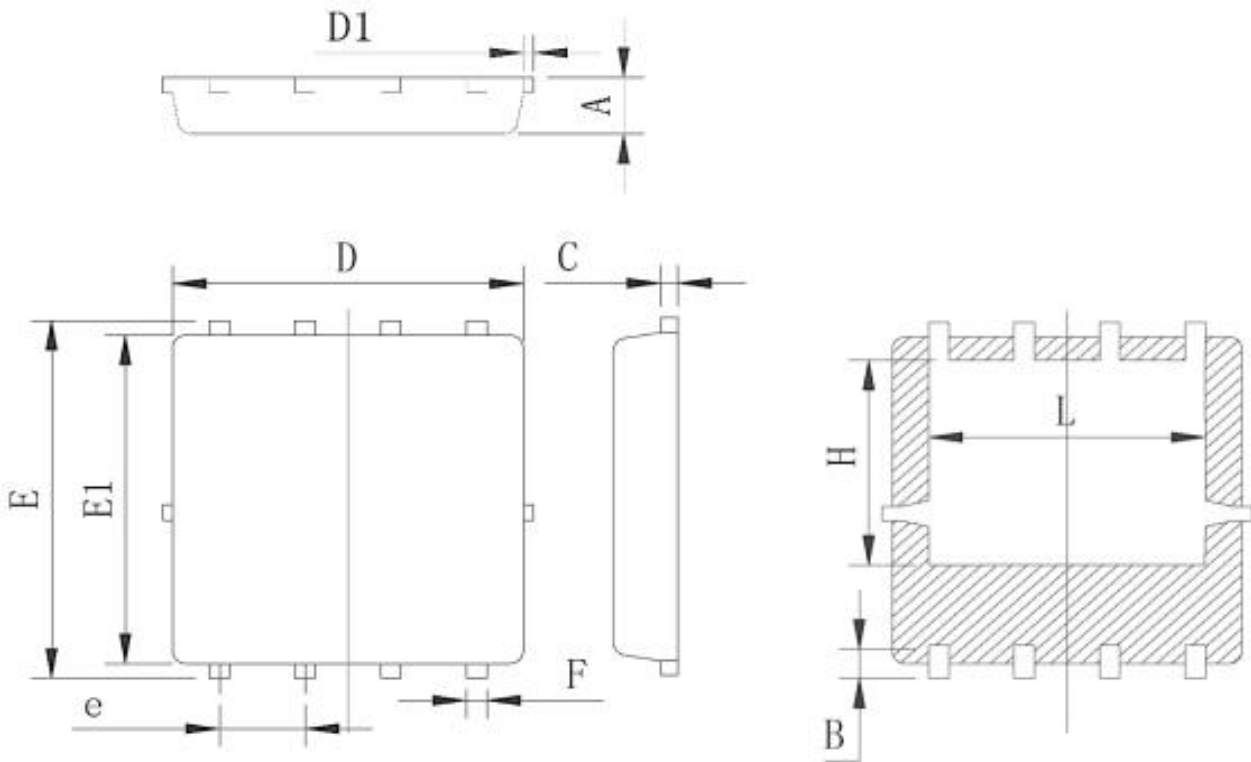


Figure 8 Transient Thermal Impedance

Package outline drawing(DFN5\*6 Unit: mm)



Symbol	Min	Typ	Max
A	0.90	0.95	1.00
B	0.48	0.58	0.68
C	0.20	0.254	0.30
D	5.00	5.20	5.40
D1			0.15
E	5.90	6.05	6.20
E1	5.40	5.55	5.70
e	1.22	1.27	1.32
F	0.25	0.30	0.35
H	3.27	3.47	3.67
L	3.80	4.00	4.20

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