

VRRM	IF ( TC≤135°C)	QC
650V	9A	18nC

### **Applications:**

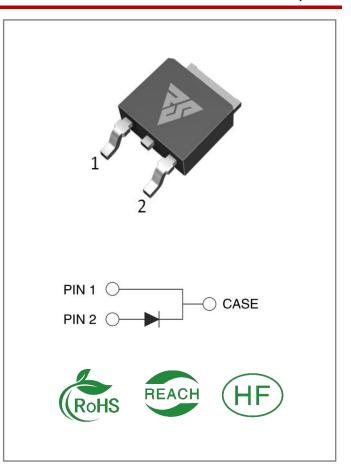
- Switch Mode Power Supplies
- Power Factor Correction
- Motor drive, PV Inverter, Wind Power Station

#### **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.
RSS06065D	TO-252	RSS06065D	Tape&reel	2500 PCS



## Maximum Ratings (TJ= 25°C unless otherwise specified)

Symbo I	Parameter		Unit	Test Conditions	Not e
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	20 9 6	А	TC ≤ 25°C TC ≤ 135°C TC ≤ 153°C	Fig.
IFSM	Non-Repetitive Forward Surge Current	66 57	А	TC = $25^{\circ}$ C, tp = 10ms, Half Sine Wave TC = $110^{\circ}$ C, tp = 10ms, Half Sine Wave	
IFRM	Repetitive Peak Forward Surge Current	60	Α	TC = $25^{\circ}$ C, tp = 10ms, Half Sine Wave	
Ptot	Power Dissipation	87	W	TC = 25°C	Fig. 4
TC	Maximum Case Temperature	153	$^{\circ}$		
TJ,TST G	Operating Junction and Storage Temperature	-55 to17 5	$^{\circ}$ C		

# **Electrical Characteristics** (TJ= 25 °C unless otherwise specified)

Symbo I	Parameter	Тур.	Max	Unit	Test Conditions	Note
VF	Forward Voltage	1.34 1.67	1.5 -	٧	IF = 6A, TJ = 25°C IF = 6A, TJ = 175°C	Fig.1
IR	Reverse Current	1.2 4.5	50 -	μΑ	VR = 650V, TJ = 25 $^{\circ}$ C VR = 650V, TJ = 175 $^{\circ}$ C	Fig.2
С	Total Capacitance	261 35 33	/	pF	VR = 1V, TJ = $25^{\circ}$ C, f = 1MHz VR = 200V, TJ = $25^{\circ}$ C, f = 1MHz VR = 400V, TJ = $25^{\circ}$ 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 (TJ= 25°C unless otherwise specified)

Symbol	Parameter	Тур.	Unit	Note
RθJC	Thermal Resistance from Junction to Case	1.73	°C/W	Fig.8



### **Typical Feature Curve**

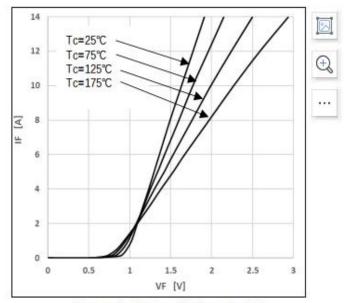


Figure 1 Forward Characteristics

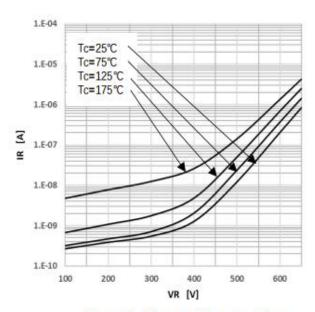


Figure 2 Reverse Characteristics

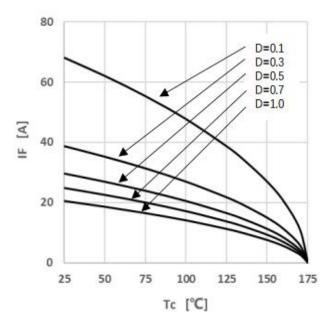


Figure 3 Peak Forward Current Derating

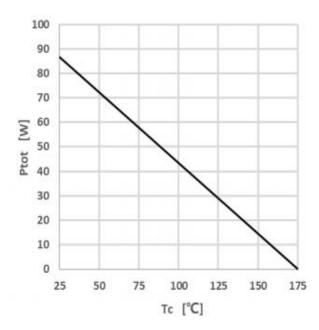


Figure 4 Power Dissipation

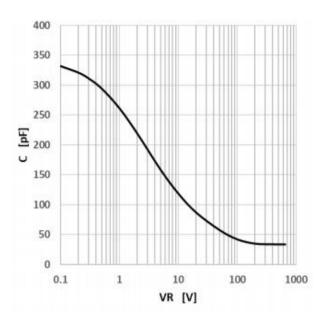


Figure 5 Capacitance vs. Reverse Voltage

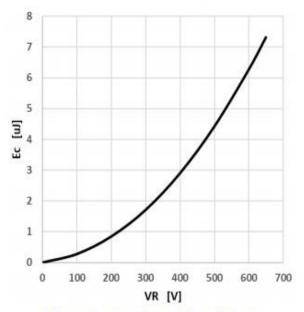


Figure 7 Capacitance Stored Energy

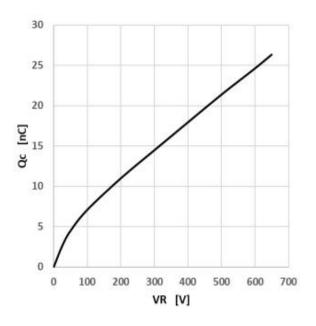


Figure 6 Capacitance Charge vs. Reverse Voltage

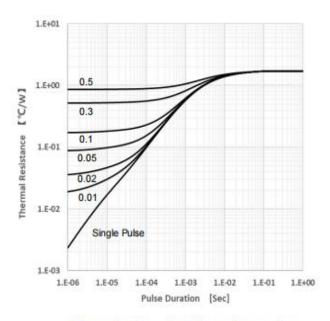
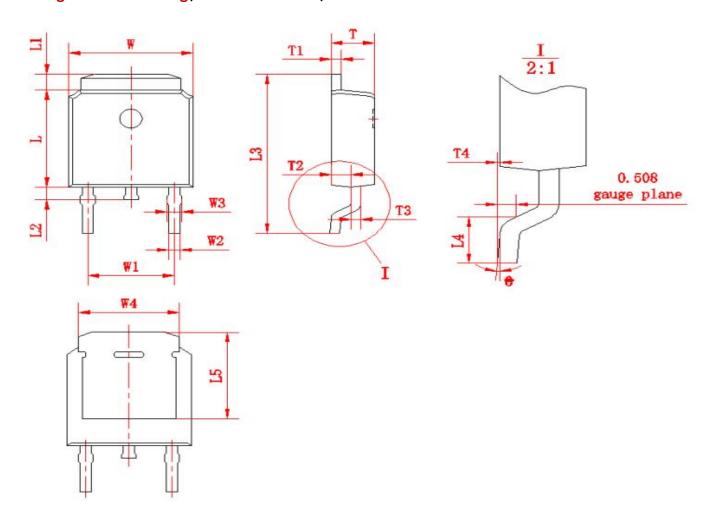


Figure 8 Transient Thermal Impedance



# Package outline drawing(TO-252 Unit: mm)



符号	尺寸		符号	F	75	符号	尺寸	
19 <del>5</del>	Min	Max	175	Min	Max	य न	Min	Max
W	6.50	6.70	L1	0.80	1.20	T1	0.48	0.58
W1	(4.572)		L2	0.60	1.00	T2	0.95	1.15
W2	0.6	0.8	L3	9.70	10.30	Т3	0.48	0.58
W3	0.68	0.88	L4	1.30	1.70	T4	0.00	0.12
W4	(5	.3)	L5	(5.20)		0	0	8
L	6.00	6.20	Т	2.20 2.40				



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