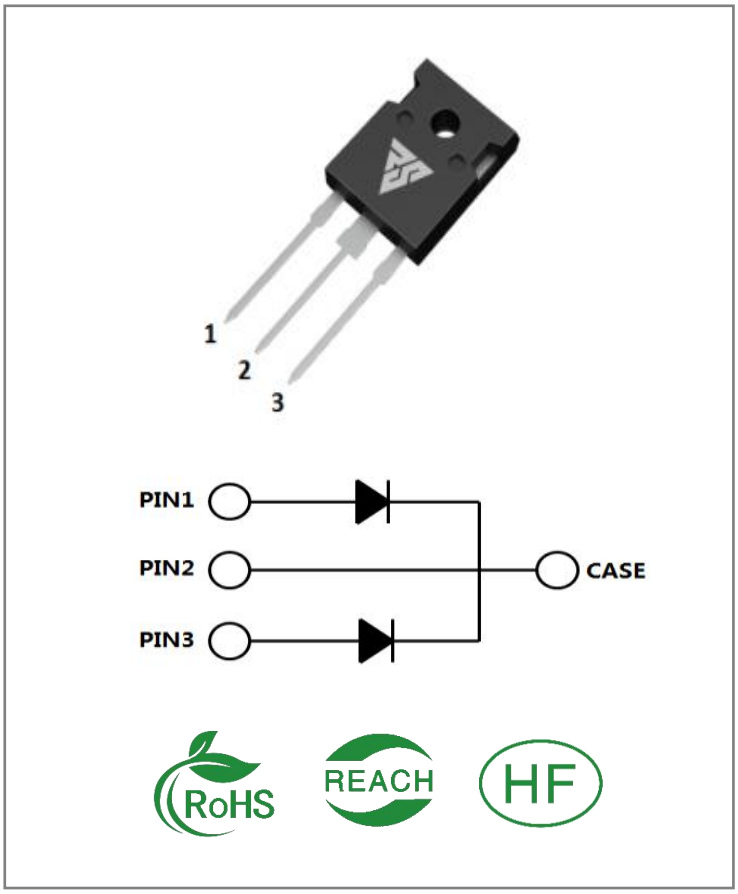
VRRM	IF (TC≤135℃)	QC
650V	36A	72nC



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.
RSS30065K	TO-247-3	RSS30065K	Tube	30 PCS

Maximum Ratings (TJ= 25℃ unless otherwise specified)

Symbol	Parameter	Value	Unit	Test Conditions	Note
VRRM	Repetitive Peak Reverse Voltage	650	V	TC = 25℃	
VRSM	Surge Peak Reverse Voltage	650	V	TC = 25℃	
VR	DC Blocking Voltage	650	V	TC = 25℃	
IF	Forward Current	39*21 8*2 15/30	A	TC ≤ 25℃ TC ≤ 135℃ TC ≤ 151℃	
IFRM	Repetitive Peak Forward Surge Current	135*2	A	TC = 25℃, tp =8.3ms, Half Sine Wave	
Ptot	Power Dissipation	161*2	W	TC = 25℃	Fig.3
TC	Maximum Case Temperature	151	℃		
TJ, TSTG	Operating Junction and Storage Temperature	-55 to175	℃		

Electrical Characteristics (TJ= 25℃ unless otherwise specified)

Symbol	Parameter	Typ.	Max.	Unit	Test Conditions	Note
VF	Forward Voltage	1.4 1.75	1.65 2.3	V	IF = 15A, TJ = 25℃ IF = 15A, TJ = 175℃	Fig.1
IR	Reverse Current	1 5	20 100	μA	VR = 650V, TJ = 25℃ VR = 650V, TJ = 175℃	Fig.2
C	Total Capacitance	865 88 72	/	pF	VR = 1V, TJ = 25℃, f = 1MHz VR = 200V, TJ = 25℃, f = 1MHz VR = 400V, TJ = 25℃, f = 1MHz	Fig.5
QC	Total Capacitive Charge	36	/	nC	VR =650V,	Fig.4

Thermal Characteristics (TJ= 25℃ unless otherwise specified)

Symbol	Parameter	Typ.	Unit	Note
RθJC	Thermal Resistance from Junction to Case	0.93	℃/W	Fig.6

Typical Feature Curve

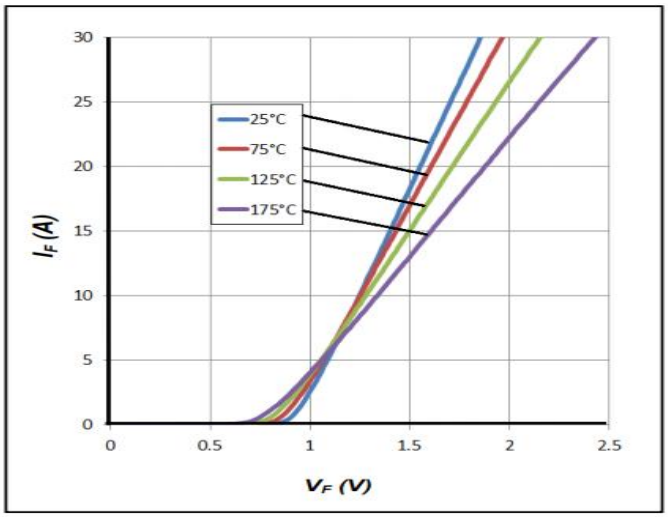


Figure 1. Forward Characteristics

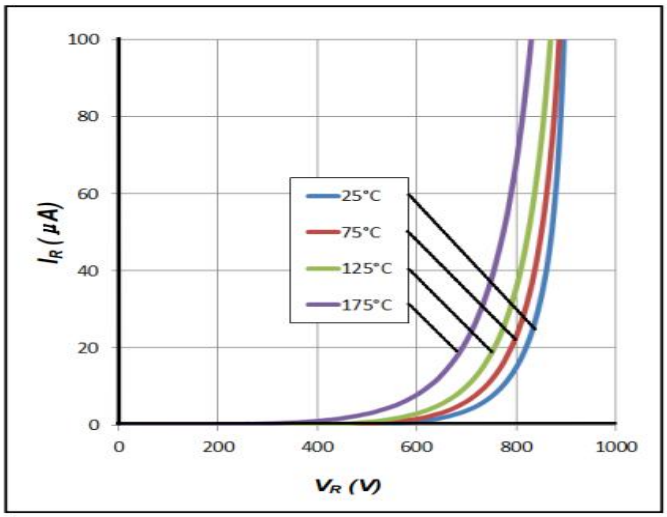


Figure 2. Reverse Characteristics

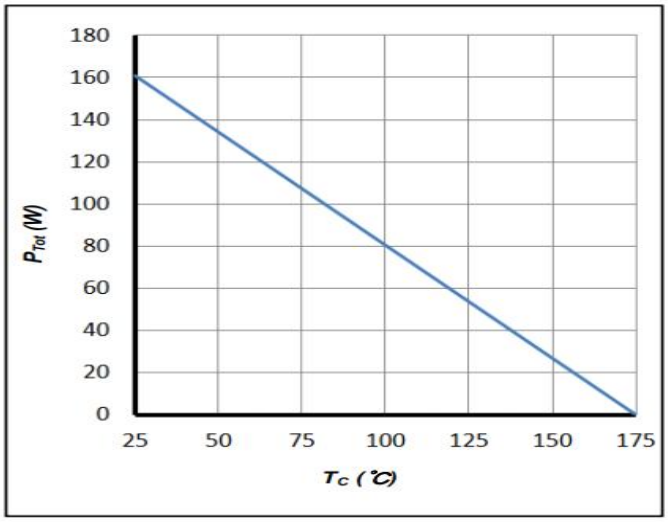


Figure 3. Power Derating

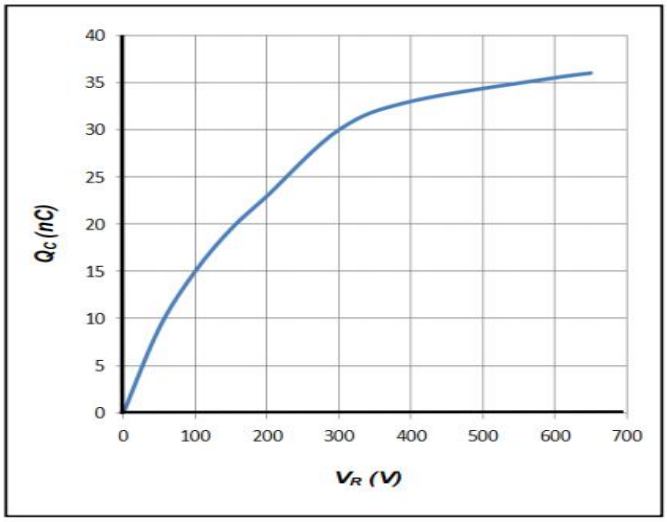


Figure 4. Total Capacitive Charge vs. Reverse Voltage

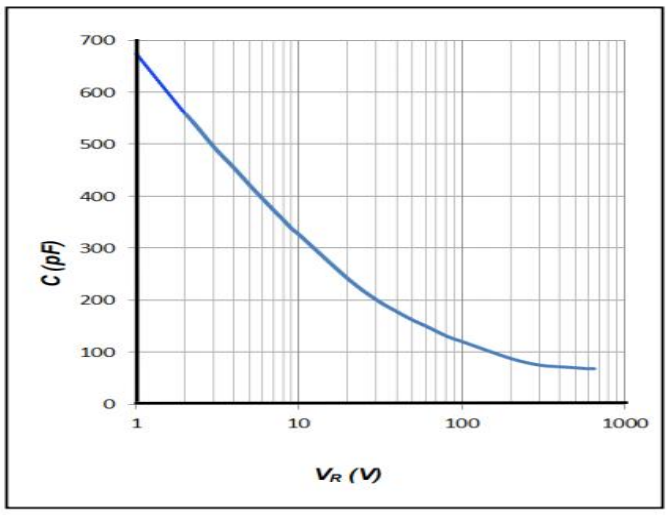


Figure 5. Total Capacitance vs. Reverse Voltage

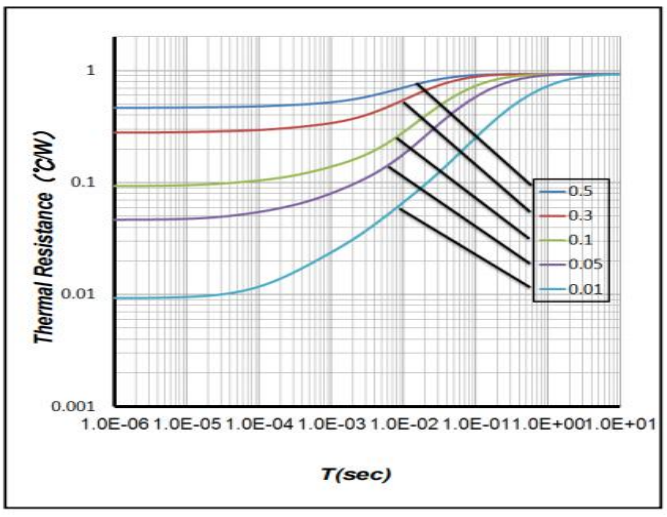
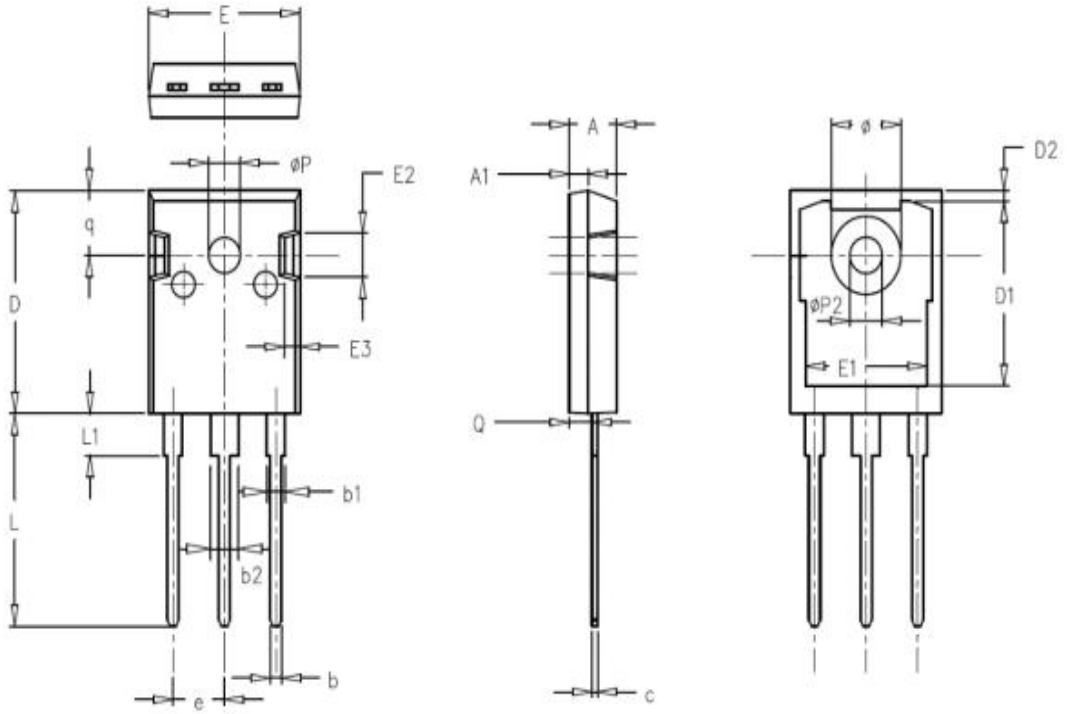


Figure 6. Transient Thermal Impedance

Package outline drawing(TO-247-3 Unit: mm)



SYMBOL	MILLIMETERS			NOTES	SYMBOL	MILLIMETERS			NOTES
	Normal	MIN.	MAX.			Normal	MIN.	MAX.	
A	4.98	4.68	5.36		øP	3.66	3.45	3.85	
A1	1.99	1.90	2.10		e	5.44	BSC		
Q	2.41	2.30	2.60		q	6.24	5.99	6.58	
c	0.60	0.48	0.72		øP2	3.45	3.24	3.64	
b	1.20	1.00	1.40		ø	7.14	7.10	7.30	
b1	2.07	1.90	2.30		D1	16.56	16.10	17.10	
b2	3.07	2.90	3.30		D2	0.98	0.80	1.36	
D	21.10	20.80	21.80		E1	13.30	13.00	13.52	
E	15.98	15.38	16.20		E2	5.64	5.10	6.10	
L	20.28	19.50	20.50		E3	2.33	1.90	2.70	
L1	4.01	3.75	4.35						

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