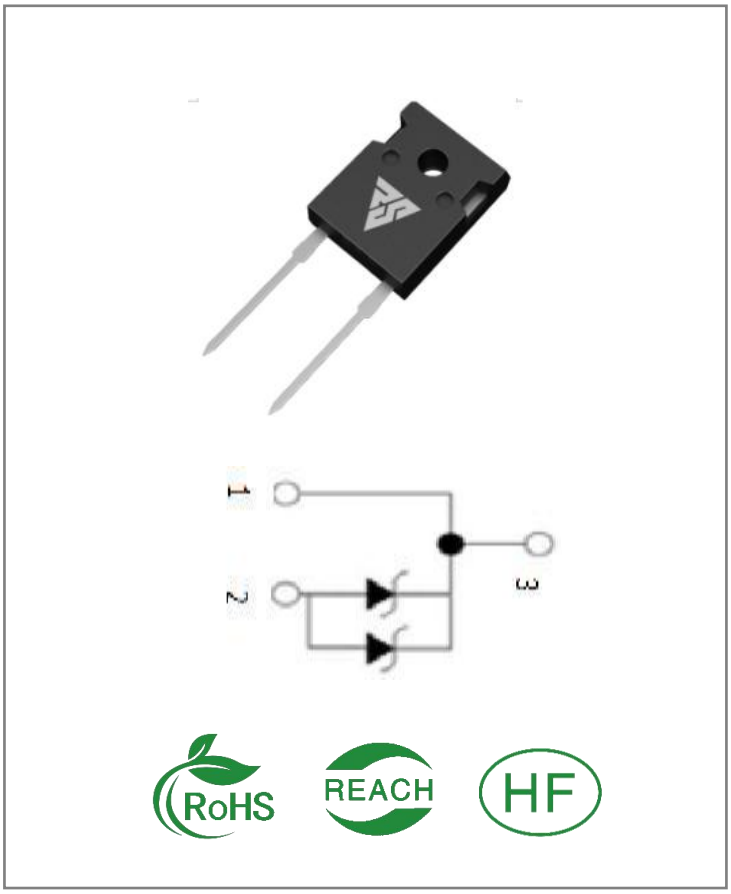
VRRM	IF (TC≤135℃)	QC
1200V	75A	310nC



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.
RSS50120W	TO-247-2	RSS50120W	Tube	30 PCS

Maximum Ratings (TJ= 25℃ unless otherwise specified)

Symbol	Parameter	Value	Unit	Test Conditions	Note
VRRM	Repetitive Peak Reverse Voltage	1200	V	TC = 25℃	
VRSM	Surge Peak Reverse Voltage	1200	V	TC = 25℃	
VR	DC Blocking Voltage	1200	V	TC = 25℃	
IF	Forward Current	155 75 50	A	TC ≤ 25℃ TC ≤ 135℃ TC ≤ 150℃	
IFSM	Non-Repetitive Forward Surge Current	350	A	TC = 25℃, tp =10ms, Half Sine Wave	
IFRM	Repetitive Peak Forward Surge Current	320	A	TC = 25℃, tp =10ms, Half Sine Wave	
Ptot	Power Dissipation	625	W	TC = 25℃	
TC	Maximum Case Temperature	150	℃		
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 1.85	1.7	V	IF = 50A, TJ = 25℃ IF = 50A, TJ = 175℃	
IR	Reverse Current	30 540	200	μA	VR = 1200V, TJ = 25℃ VR = 1200V, TJ = 175℃	
C	Total Capacitance	3620 293 207	/	pF	VR = 1V, TJ = 25℃, f = 1MHz VR = 400V, TJ = 25℃, f = 1MHz VR = 800V, TJ = 25℃, f = 1MHz	
QC	Total Capacitive Charge	310	/	nC	VR =800V,	

Thermal Characteristics (TJ= 25℃ unless otherwise specified)

Symbol	Parameter	Typ.	Unit	Note
RθJC	Thermal Resistance from Junction to Case	0.24	℃/W	

Typical Feature Curve

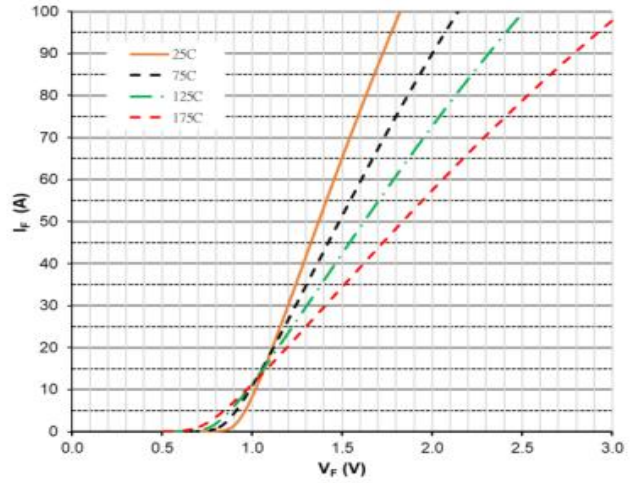


Figure 1. Forward Characteristics

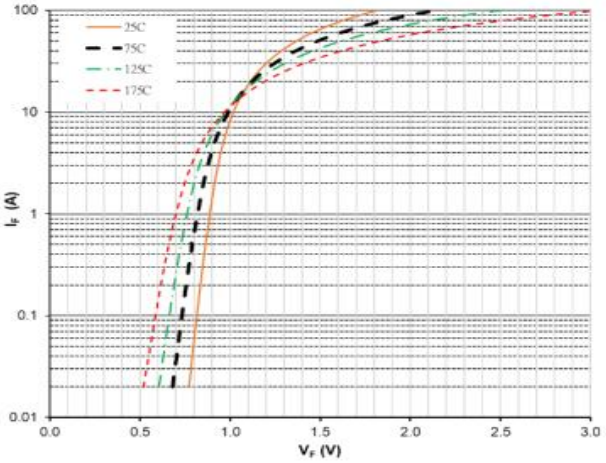


Figure 2. Forward Characteristics

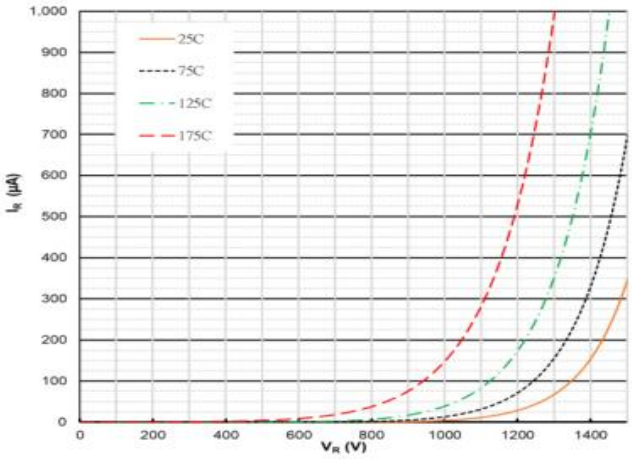


Figure 3. Reverse Characteristics

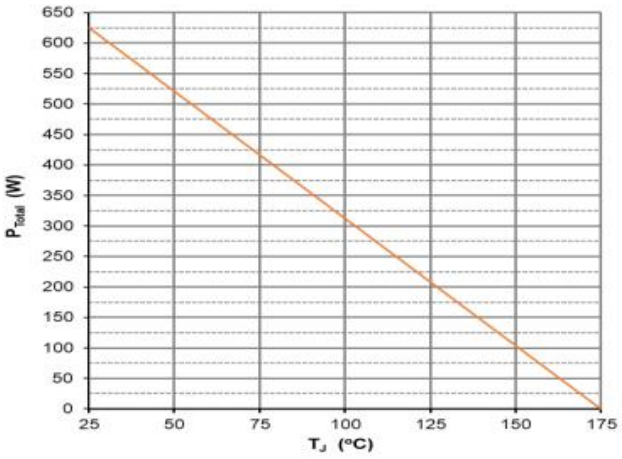


Figure 4. Power Derating

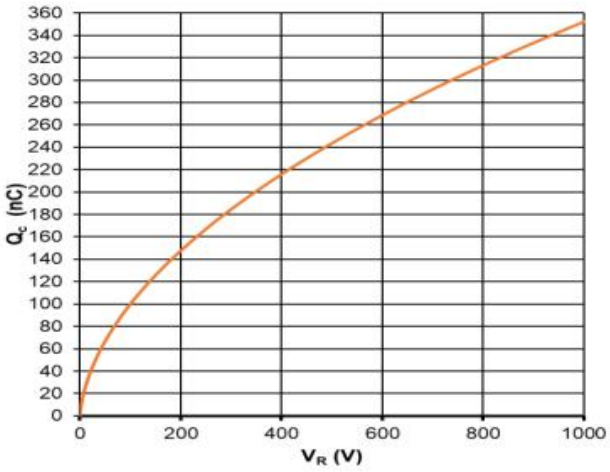


Figure 5. Reverse charge vs. Reverse Voltage

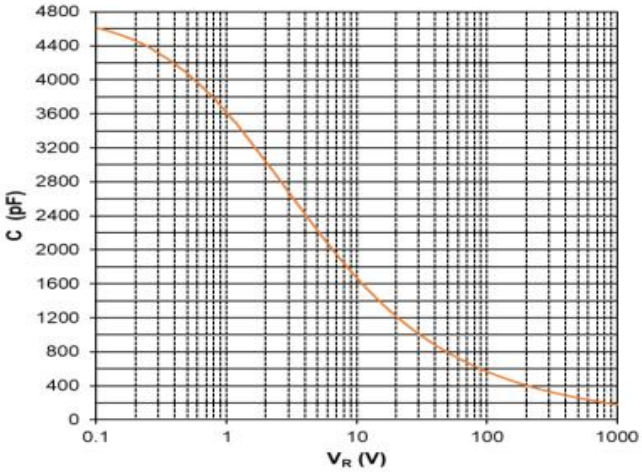
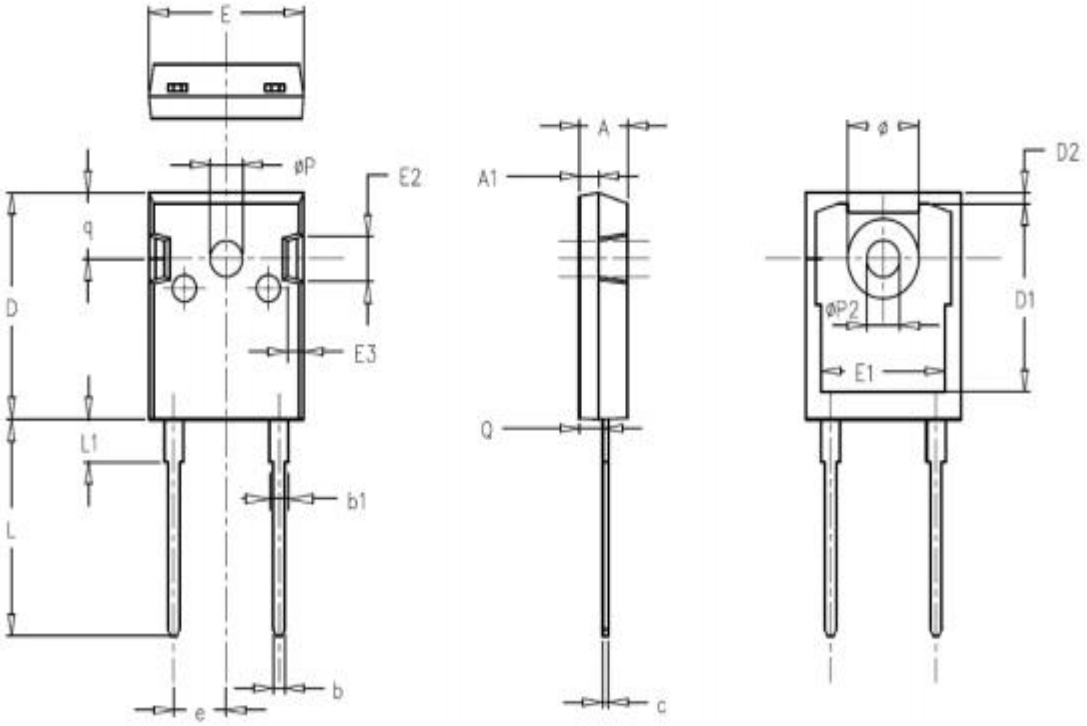


Figure 6. Capacitance vs. Reverse Voltage

Package outline drawing(TO-247-2 Unit: mm)



SYMBOL	MILLIMETERS			N OTES	SYMBOL	MILLIMETERS			N OTES
	N ormal	MIN.	MAX.			Normal	MIN.	MAX.	
A	4.98	4.68	5.36		øP	3.66	3.45	3.85	
A 1	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	
D	21.10	20.80	21.80		D2	0.98	0.80	1.36	
E	15.98	15.38	16.20		E1	13.30	13.00	13.52	
L	20.28	19.50	20.50		E2	5.64	5.10	6.10	
L1	4.01	3.75	4.35		E3	2.33	1.90	2.70	

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