

Silicon Carbide Power Schottky Barrier Diode



Lead Free

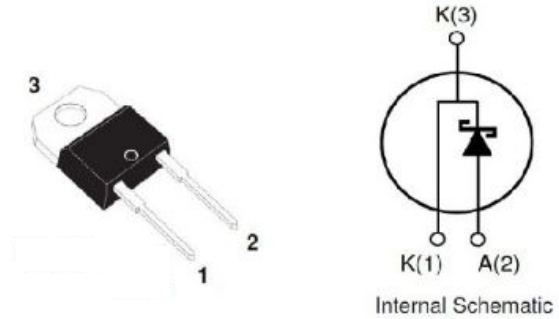
Applications:

- Power factor correction
- Solar wind inverters
- Industrial motor drivers
- Charge block for electrical cars
- Electrical household appliances
- Uninterruptible Power System(UPS)

$I_F, T_c \leq 135^\circ\text{C}$	Q_c	V_{RRM}
5.0A	9.4 nC	600V

Features:

- Rated to 600V at 4 Amps
- Zero reverse recovery current
- Zero forward recovery voltage
- Temperature independent switching behaviour
- High temperature operation
- High frequency operation
- Substantially reduced switching losses
- No thermal run-away with parallel devices
- Reduced heat sink requirements



Ordering Information

Part Number	Package	Marking
RSS04060A	TO-220-2	RSS04060A

Maximun Ratings

Symbol	Parameter	Value	Units	Test Conditions
VRRM	Repetitive Peak Reverse Voltage	600	V	T _j =25°C
VRSM	Surge Peak Reverse Voltage	600	V	T _j =25°C
VDC	DC Blocking Voltage	600	V	T _j =25°C
I _F	Continuous Forward Current	11 5 4	A	T _j =25°C T _j =135°C T _j =150°C
I _{FRM}	Repetitive Peak Forward Surge Current	15	A	T _c =25°C, T _p =10mS, Half Sine Wave, D=0.3
I _{FSM}	Non-repetitive Peak Forward Surge Current	21	A	T _c =25°C, T _p =10mS, Half Sine Wave
P _{TOT}	Power Dissipation	53 23	W	T _c =25°C T _c =110°C
T _c	T _c	135	°C	
T _j	Maximum Case Temperature	-55 to 175	°C	
T _{stg}	Operating Junction	-55 to 175	°C	
TL TPKG	Maximum Temperature for Soldering Leads at 0.063in(1.6mm)from Case for 10 seconds Package Body for 10 seconds	300 260	°C	
Mounting Torque		1 8.8	Nm lbf-in	M3 Screw 6-32 Screw

Thermal Resistance

Symbol	Parameter	Value	Units	Test Conditions
Rth JC	Junction-to-Case	2.82	°C/W	

Electrical Characteristics

Symbol	Parameter	Typ.	Max.	Units	Test Conditions
VF	Forward Voltage	1.55	1.8	V	IF=4A Tj=25°C
		2.2	2.5		IF=4A Tj=175°C
IR	Reverse Current	10	100	µA	VR=600V Tj=25°C
		20	200		VR=600V Tj=175°C
Qc	Total Capacitive	9.4	--	nC	VR=600V, IF=4A, di/dt=500A/us, Tj=25°C
C	Total Capacitance	181	220	pF	VR=0V, Tj=25°C, f=1MHZ
		22.5	25		VR=200V, Tj=25°C, f=1MHZ
		20.5	21		VR=400V, Tj=25°C, f=1MHZ

Performance Graphs

Figure1. Forward IV characteristics as a function of Tj

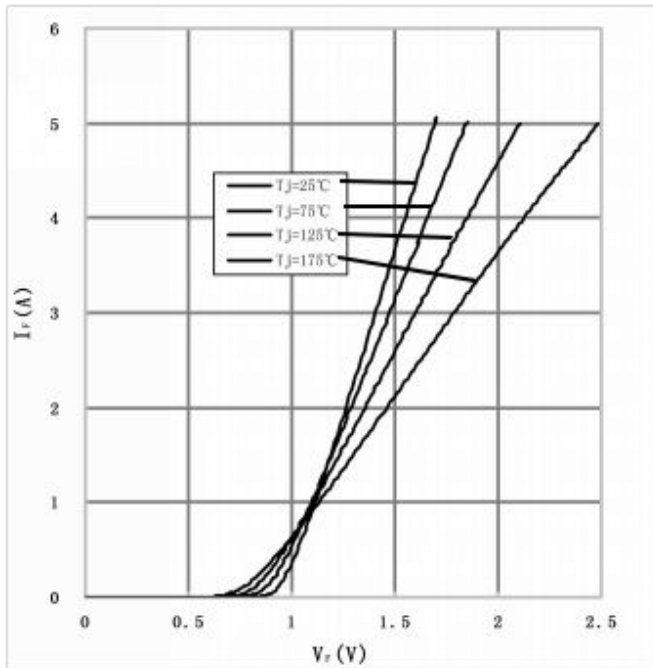
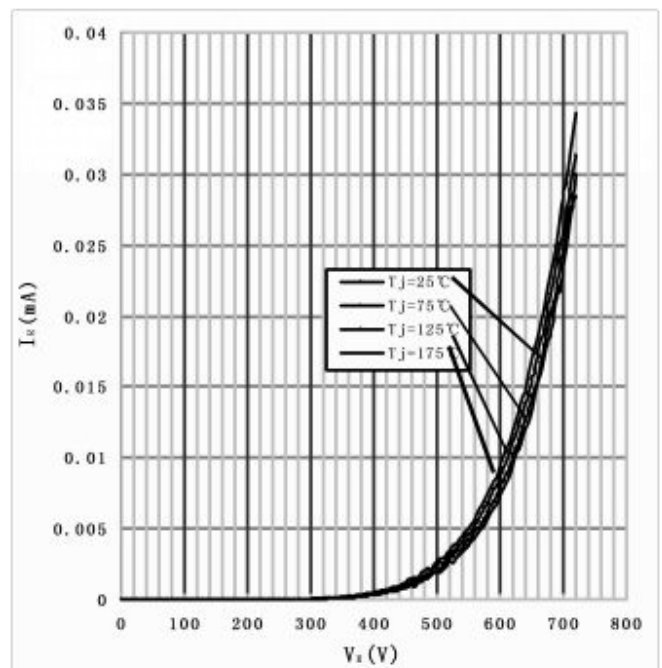


Figure2. Reverse IV characteristics as a function of Tj



Performance Graphs

Figure3. Current Derating

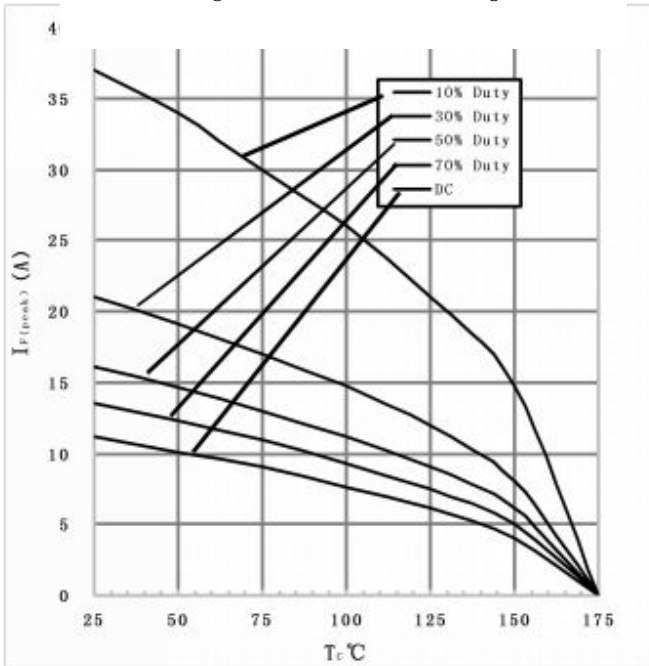
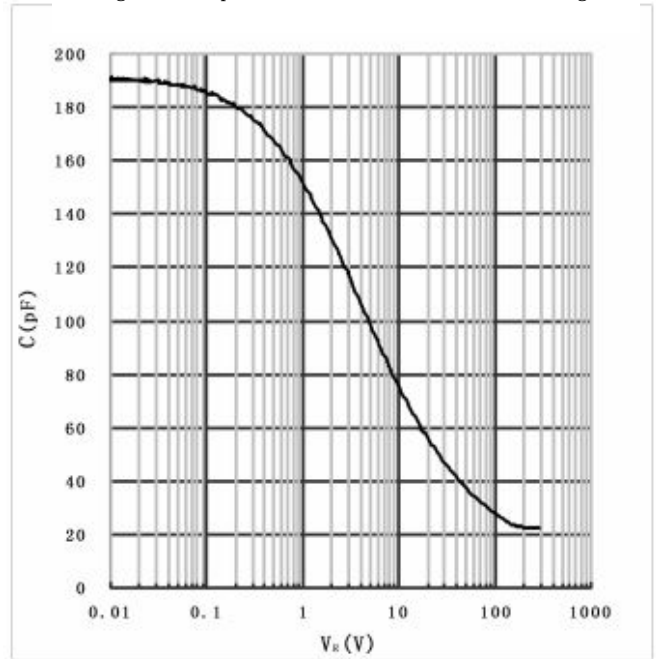
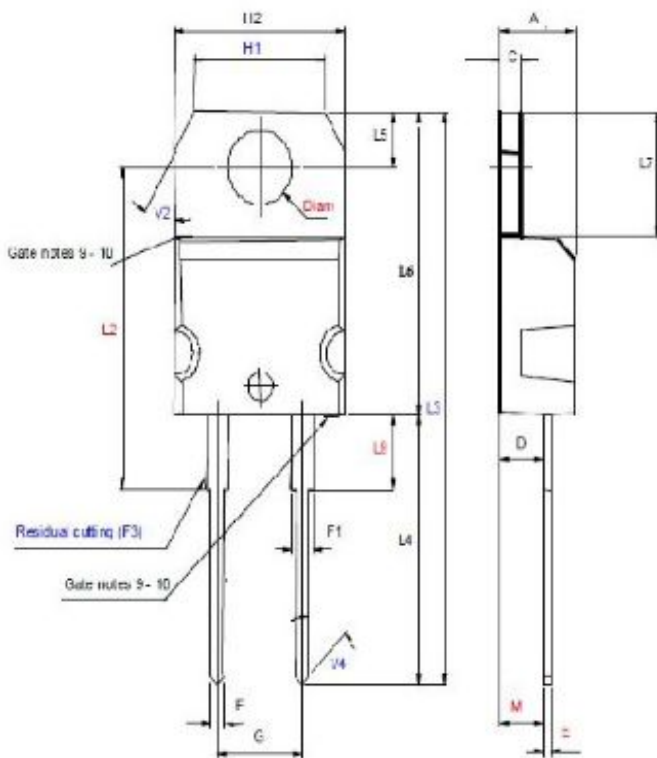


Figure4. Capacitance vs. reverse voltage



Package T0-220-2



DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.4	4.6	0.173	0.181
C	1.23	1.32	0.048	0.052
D	2.4	2.72	0.094	0.107
E	0.49	0.7	0.019	0.028
F	0.61	0.88	0.024	0.035
F1	1.14	1.7	0.045	0.067
F3		1		0.039
G	4.95	5.15	0.195	0.203
H1	7.7	7.9	0.303	0.311
H2	10	10.4	0.394	0.409
L2	16.4		0.646	
L3	28.9		1.138	
L4	13	14	0.512	0.551
L5	2.65	2.95	0.104	0.116
L6	15.25	15.75	0.600	0.620
L7	6.2	6.6	0.244	0.260
L9	3.5	3.93	0.138	0.155
M	2.6			
V	5°			
V2	30°			
V4	45°			
diam	3.75	3.85	0.148	0.152

Disclaimers:

GuangDong Reasunos Semiconductor Technology CO.,LTD(Reasunos)reserves the right to make changes without notice in order to improve reliability,function or design and to discontinue any product or service without notice .Customers should obtain the latest relevant information before orders and should verify that such information in current and complete.All products are sold subject to Reasunos's terms and conditions supplied at the time of order acknowledgement.

GuangDong Reasunos Semiconductor Technology CO.,LTD warrants performance of its hardware products to the specifications at the time of sale.Testing,reliability and quality control are used to the extent Reasunos deems necessary to support this warrantee. Except where agreed upon by contractual agreement,testing of all parameters of each product is not necessarily performed.

GuangDong Reasunos Semiconductor Technology CO.,LTD does not assume any liability arising from the use of any product or circuit designs described herein.Customers are responsible for their products and applications using Reasunos's components.To minimize risk,customers must provide adequate design and operating safeguards.

GuangDong Reasunos Semiconductor Technology CO.,LTD does not warrant or convey any license either expressed or implied under its patent rights,nor the rights of others.Reproduction of information in Reasunos's data sheets or data books is permissible only if reproduction is without modification or alteration.Reproduction of this information with any alteration is an unfair and deceptive business practice.GuangDong Reasunos Semiconductor Technology CO.,LTD is not responsible or liable for such altered documentation.

Resale of Reasunos's products with statements different from or beyond the parameters stated by GuangDong Reasunos Semiconductor Technology CO.,LTD for that product or service voids all express or implied warranties for the associated Reasunos's product or service and is unfair and deceptive business practice.GuangDong Reasunos Semiconductor Technology CO.,LTD is not responsible or liable for such statements.

Life Support Policy:

GuangDong Reasunos Semiconductor Technology CO.,LTD's Products are not authorized for use as critical components in life support devices or systems without the expressed written approval of GuangDong Reasunos Semiconductor Technology CO.,LTD.

As used herein:

- 1.Life support devices or systems are devices or systems which:
 - a.are intended for surgical implant into the human body,
 - b.support or sustain life,
 - c.whose failure to when properly used in accordance with instructions for use provided in the labeling,can be reasonably expected to result in significant injury to the user.
 - 2.A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system,or to affect its safety or effectiveness.
-