RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

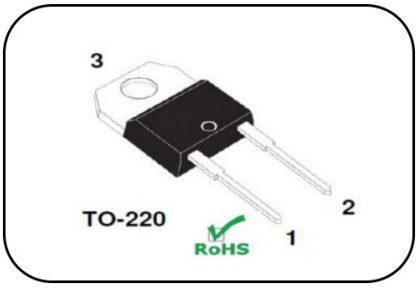
SC3S06504A

SiC Schottky Diode

V_{RRM}	650	V
I_F, $T_c \leqslant 135℃$	5	A
Q_C	9.4	nC

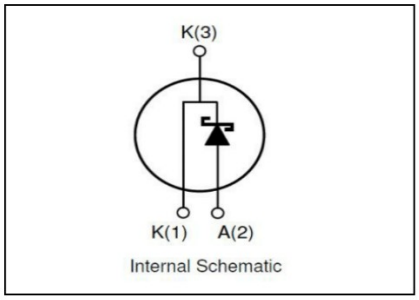
Features:

- 正温度系数，易于并联使用
- 不受温度影响的开关特性
- 最高工作温度 175℃
- 零反向恢复电流
- 零正向恢复电压



Benefits:

- 单极器件
- 极大降低开关损耗
- 并联器件中没有热崩溃
- 降低系统对散热片的依赖



Applications:

- 开关模式电源(SMPS)，功率因数校正(PFC)
- 电机驱动，光伏逆变器，不间断电源，
  风力发动机，列车牵引系统，电动汽车。

Maximum Ratings:

Parameter	Symbol	Value	Unit	Test Condition
Repetitive Peak Reverse Voltage	V_{RRM}	650	V	T_j=25℃
Surge Peak Reverse Voltage	V_{RSM}	650		T_j=25℃
DC Blocking Voltage	V_{DC}	650		T_j=25℃
Continuous Forward Current	I_F	11 5 4	A	T_C=25℃ T_C=135℃ T_C=150℃
Repetitive Peak Forward Surge Current	I_{FRM}	15	A	T_C=25℃, tp=10ms, Half Sine Wave, D=0.3
Non-repetitive Peak Forward Surge Current	I_{FSM}	21	A	T_C=25℃, tp=10ms, Half Sine Wave
Power Dissipation	P_{TOT}	53.2 23	W	T_C=25℃ T_C=110℃
Operating Junction Temperature	T_j	-55℃ to 175℃	℃	
Storage Temperature	T_{stg}	-55℃ to 175℃	℃	

Thermal Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance from Junction to Case	$R_{\theta JC}$		2.82		℃/W

Electrical Characteristics

Parameter	Symbol	Typ.	Max.	Unit	Test Condition
Forward Voltage	V_F	1.55 2.2	1.9 2.4	V	I_F=4A, T_j=25℃ I_F=4A, T_j=175℃
Reverse Current	I_R	100 200	200 500	uA	V_R=650V, T_j=25℃ V_R=650V, T_j=175℃
Total Capacitance Charge	Q_C	9.4	-	nC	V_R=650V, I_F=4A, di/dt=500A/us, T_j=25℃
Total Capacitance	C	181 22.5 20.5	220 25 21	pF	V_R=0V, T_j=25℃, f=1MHZ V_R=200V, T_j=25℃, f=1MHZ V_R=400V, T_j=25℃, f=1MHZ

RATING AND CHARACTERISTICS CURVES (SC2S06504A)

Chart 1. Forward Characteristics

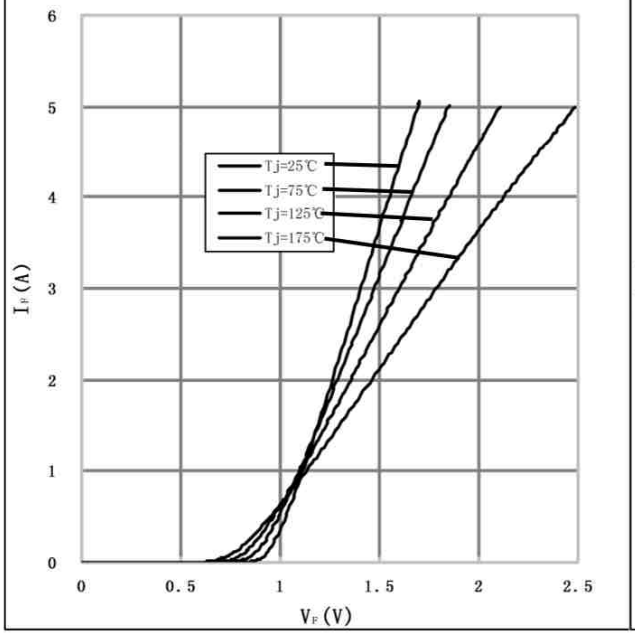
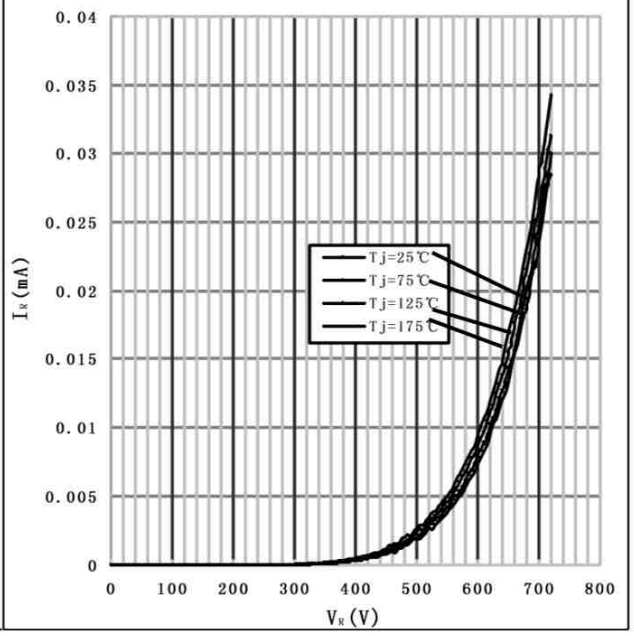


Chart 2. Reverse Characteristics



RATING AND CHARACTERISTICS CURVES (SC2S06504A)

Chart 3

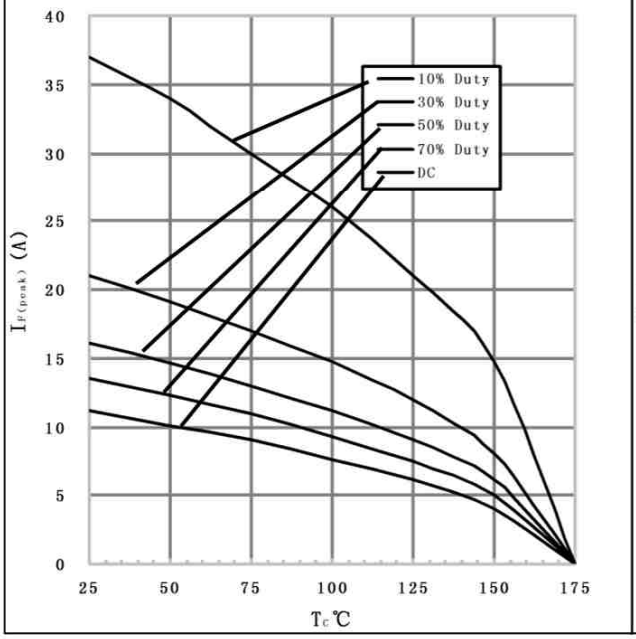
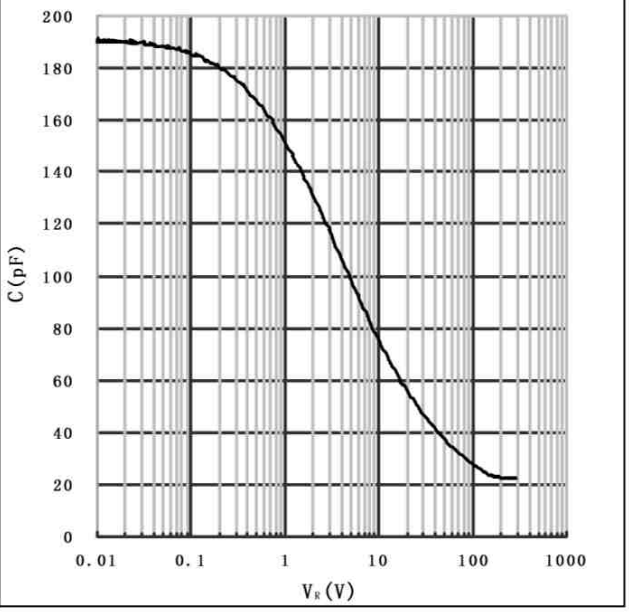
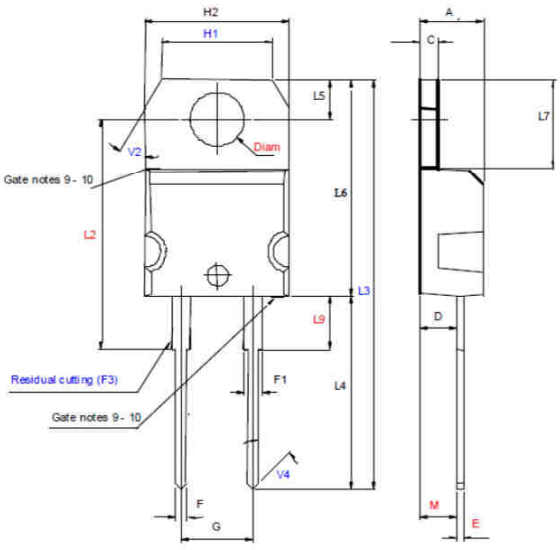


Chart 4



Package Outline: TO-220



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

DISCLAIMER NOTICE

Rectron Inc reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. Rectron Inc or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on RECTRON data sheets and/ or specifications can and do vary in different applications and actual performance may vary over time. Rectron Inc does not assume any liability arising out of the application or use of any product or circuit.

Rectron products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of Rectron Inc. Customers using or selling Rectron components for use in such applications do so at their own risk and shall agree to fully indemnify Rectron Inc and its subsidiaries harmless against all claims, damages and expenditures.