15A 650V Silicon Carbide Schottky Diode SRD15V65A

General Description

The SRD15V65A is a Silicon Carbide Schottky Diode, which offers low V_F and superior switching performance for high frequency applications such as PFC, Power Supply, Inverter, etc.

The SRD15V65A is available in TO-220C-2 and TO-247-2 packages.

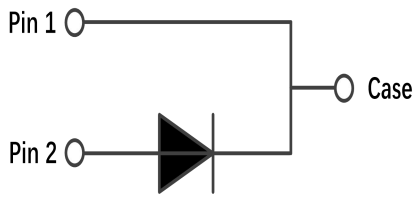
Features

- Zero Reverse Recovery Current
- Zero Forward Recovery Voltage
- Positive Temperature Coefficient on V_F
- Temperature-independent Switching
- 175°C Operating Junction Temperature
- Non-Automotive Qualified

Application

- Switch Mode Power Supplies
- Motor Driver, PV Inverter
- PFC Application

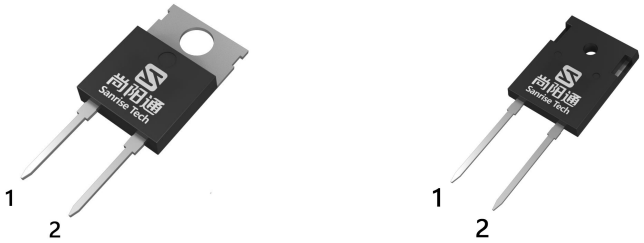
Symbol



TO-220C-2 and TO-247-2

Figure 1 Symbol of SRD15V65A

Package Type



TO-220C-2 TO-247-2

Figure 2 Package Type of SRD15V65A

Ordering Information

SRD15V65A□□–□

Circuit Type

Package
TC2: TO-220C-2
T2: TO-247-2

E: Lead Free
G: Green
Blank: Tube
TR: Tape & Reel

Package	Part Number	Marking ID	Packing Type
TO-220C-2	SRD15V65ATC2-G	SRD15V65ATC2G	Tube
TO-247-2	SRD15V65AT2-G	SRD15V65AT2G	Tube

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Absolute Maximum Ratings

Parameter	Test Conditions	Symbol	Value		Unit
Repetitive Peak Reverse Voltage		V_{RRM}	650		V
Surge Peak Reverse Voltage		V_{RSM}	650		V
DC Blocking Voltage		V_R	650		V
Forward Current	Tc≤149ºC	I_F	15		A
Non-Repetitive Forward Surge Current	tp=10ms, Half Sine Wave	I_{FSM}	112		A
	Tc=110ºC		100		A
I^2t Value		$\int i^2dt$	75.6		A^2S
Power Dissipation		P_{tot}	TO-220C-2	158	W
			TO-247-2	187	
Operating Junction Temperature	-	T_J	-55 ~ 175		ºC
Storage Temperature	-	T_{STG}	-55 ~ 175		ºC
Soldering Temperature		T_{sold}	260		ºC

Note:

Except for special instructions, T_c= 25℃

Thermal Resistance

Parameter	Package	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance， Junction-to-Case	TO-220C-2	R_{thJC}	-	0.95	-	ºC/W
	TO-247-2		-	0.8	-	
Thermal Resistance， Junction-to-Ambient	TO-220C-2	R_{thJA}	-	80	-	
	TO-247-2		-	80	-	

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Electrical Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
DC Blocking Voltage	V_{DC}		650			V
Forward Voltage	V_F	I_F=15A		1.4	1.65	V
		I_F=15A, T_j=175ºC		1.7	2.3	
Reverse Current	I_R	V_R=650V		2	20	μA
		V_R=650V, T_j=175ºC		10	100	
Total Capacitance	C	V_R=1V, f=1MHz		653		pF
		V_R=200V, f=1MHz		88		
		V_R=400V, f=1MHz		72		
Total Capacitive Charge	Q_C	V_R=650V, I_F=15A dI_F/dt=200A/us		36		nC
Capacitance Stored Energy	Ec	V_R=400V		5.8		μJ
Single Pulse Avalanche Energy	EAS	L=2mH		200		mJ
		L=2mH, T_j=110ºC		150		

Note:

Except for special instructions, T_j= 25℃

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Shenzhen Sanrise Technology Co., LTD

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