

EDK120S05R1L

ev™ Silicon Carbide Schottky Diode 1200V, 5A

Features

- Zero Reverse Recovery Current
- Low Forward Voltage
- High Surge Current Capability
- Independent of Temperature Switching Behavior
- Positive Temperature Coefficient
- Max Junction Temperature 175 °C
- Pb-free, Halogen Free, and RoHS Compliant

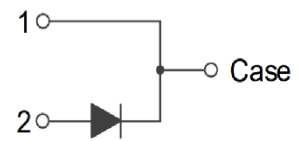
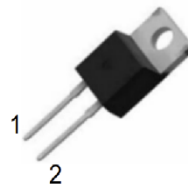
Benefits

- Higher Efficiency
- Ease of Paralleling
- Increased Power Density
- Reduced Cooling Requirements

Applications

- Solar Inverters
- Power Factor Correction
- Industrial Power Supply
- EV Charging Station

V_{RRM}	$I_F, T_C=25^\circ C$	$T_{J, Max}$	Q_C, Typ
1200V	5A	175°C	30nC



Ordering Information

Part Number	Package	Shipping	Quantity
EDK120S05R1L	TO-220-2L	Tube	30 units

Absolute Maximum Ratings ($T_C=25^\circ C$, unless otherwise specified)

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		1200	V
I_F	Forward Current	$T_C=155^\circ C$	5	A
$I_{F,SM}$	Non-Repetitive Forward Surge Current	$T_C=25^\circ C, t_p=10ms$	40	A
		$T_C=150^\circ C, t_p=10ms$	35	
$I_{F,Max}$	Non-Repetitive Peak Forward Current	$T_C=25^\circ C, t_p=10\mu s$	450	A
		$T_C=150^\circ C, t_p=10\mu s$	370	
I^2dt value	$\int I^2 dt$	$T_C=25^\circ C, t_p=10ms$	8	A^2s
		$T_C=150^\circ C, t_p=10ms$	6	A^2s
P_{tot}	Power Dissipation	$T_C=25^\circ C$	95	W
T_J, T_{STG}	Operating and Storage Temperature Range		-55 to 175	°C

■ Thermal Characteristics

Symbol	Parameter	Value	Unit
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case	1.58	°C/W

■ Electrical Characteristics (T_C=25°C, unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_F	Forward Voltage	$I_F=5A, T_J=25^\circ C$		1.39	1.70	V
		$I_F=5A, T_J=175^\circ C$		1.80		
I_R	Reverse Current	$V_R=1200V, T_C=25^\circ C$			100	μA
		$V_R=1200V, T_J=175^\circ C$			300	
Q_C	Total Capacitive Charge	$V_R=800V, T_J=25^\circ C$		30		nC
C	Total Capacitance	$V_R=1V, f=1MHz$		345		pF
		$V_R=800V, f=1MHz$		22		
E_C	Capacitance Stored Energy	$V_R=800V$		9		μJ

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