

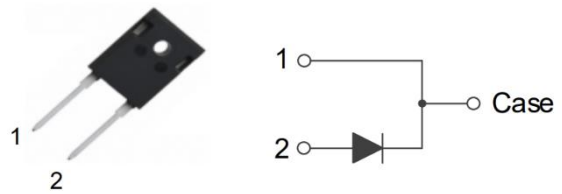
EDJ120S10R1V

ev™ Automotive Grade Silicon Carbide Schottky Diode 1200V, 10A

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
- Qualified to AEC-Q101

V_{RRM}	$I_F, T_C=25^\circ C$	$T_{J, Max}$	Q_C, Typ
1200V	10A	175°C	60nC



Benefits

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



Applications

- On-board Charger / PFC
- DC-DC Converter
- Auxiliary Inverter

Ordering Information

Part Number	Package	Shipping	Quantity
EDJ120S10R1V	TO-247-2L	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	$T_C=150^\circ C$	10	A
$I_{F, SM}$	Non-Repetitive Forward Surge Current	$T_C=25^\circ C, t_p=10ms$	80	A
		$T_C=150^\circ C, t_p=10ms$	70	
$I_{F, Max}$	Non-Repetitive Peak Forward Current	$T_C=25^\circ C, t_p=10\mu s$	810	A
		$T_C=150^\circ C, t_p=10\mu s$	700	
I^2dt value	$\int I^2t$	$T_C=25^\circ C, t_p=10ms$	32	A^2s
		$T_C=150^\circ C, t_p=10ms$	24.5	A^2s
P_{tot}	Power Dissipation	$T_C=25^\circ C$	158	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	0.95	°C/W

■ Electrical Characteristics ($T_C=25^\circ\text{C}$, unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_F	Forward Voltage	$I_F=10\text{A}$, $T_J=25^\circ\text{C}$		1.39	1.70	V
		$I_F=10\text{A}$, $T_J=175^\circ\text{C}$		1.80		
I_R	Reverse Current	$V_R=1200\text{V}$, $T_J=25^\circ\text{C}$			100	μA
		$V_R=1200\text{V}$, $T_J=175^\circ\text{C}$			300	
Q_C	Total Capacitive Charge	$V_R=800\text{V}$, $T_J=25^\circ\text{C}$		60		nC
C	Total Capacitance	$V_R=1\text{V}$, $f=1\text{MHz}$		695		pF
		$V_R=800\text{V}$, $f=1\text{MHz}$		44		
E_C	Capacitance Stored Energy	$V_R=800\text{V}$		18		μJ

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