

EDD120S20R1L

ev™ Silicon Carbide Schottky Diode 1200V, 20A

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

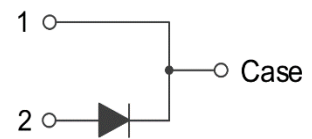
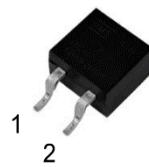
Benefits

- 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	20A	175°C	120nC



Ordering Information

Part Number	Package	Shipping	Quantity
EDD120S20R1L	TO-263-2L	Tape & Reel	2500 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	$T_C=155^\circ C$ 20	A
$I_{F,SM}$	Non-Repetitive Forward Surge Current	$T_C=25^\circ C, t_p=10ms$	135
		$T_C=150^\circ C, t_p=10ms$	115
$I_{F,Max}$	Non-Repetitive Peak Forward Current	$T_C=25^\circ C, t_p=10\mu s$	1180
		$T_C=150^\circ C, t_p=10\mu s$	980
I^2dt value	$\int I^2t$	$T_C=25^\circ C, t_p=10ms$	91
		$T_C=150^\circ C, t_p=10ms$	66
P_{tot}	Power Dissipation	$T_C=25^\circ C$ 333	W
T_J, T_{STG}	Operating and Storage Temperature Range	-55 to 175	°C

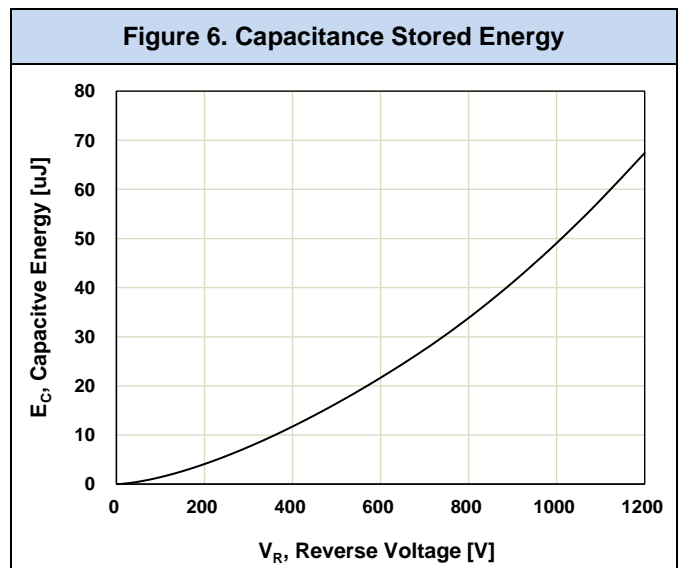
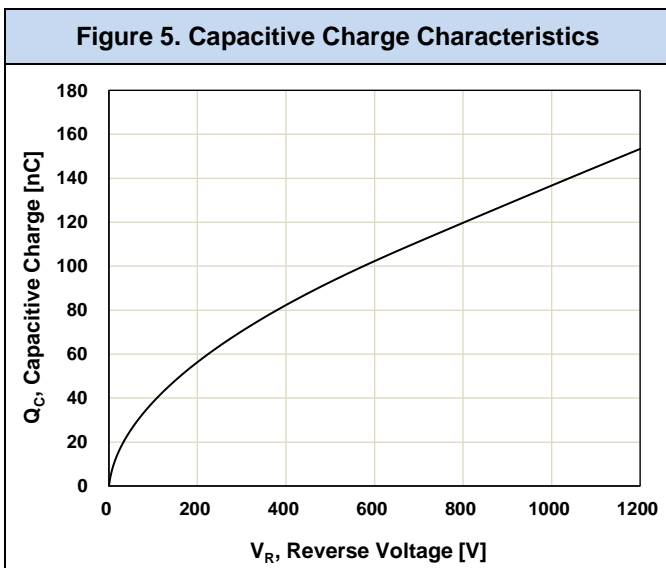
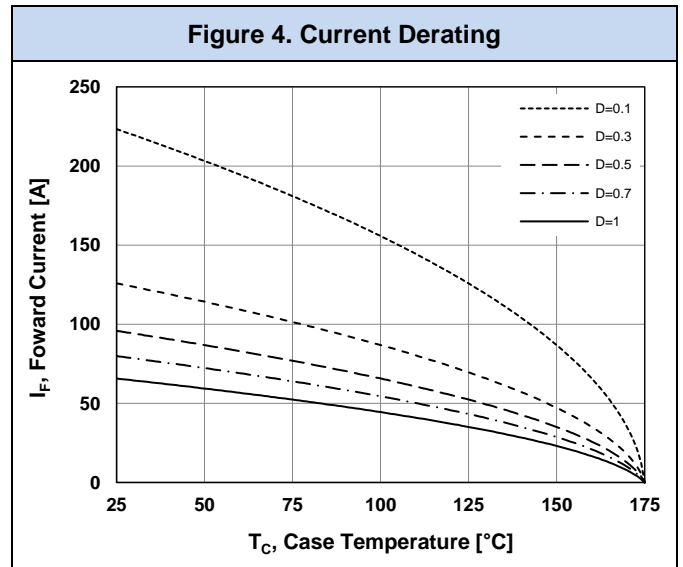
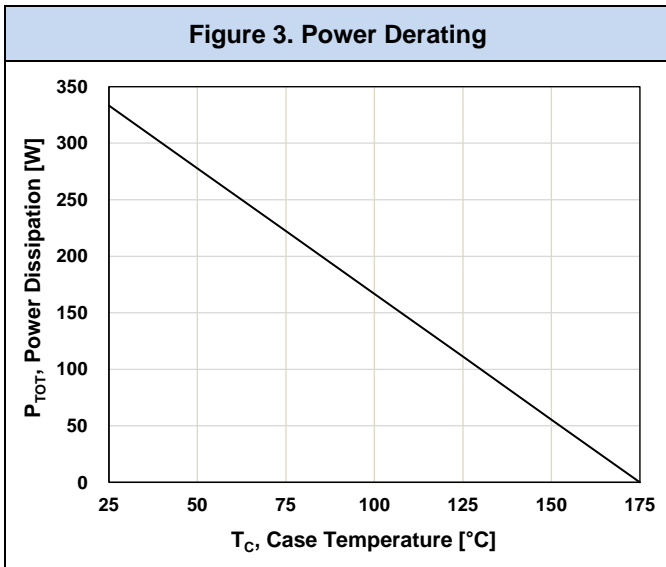
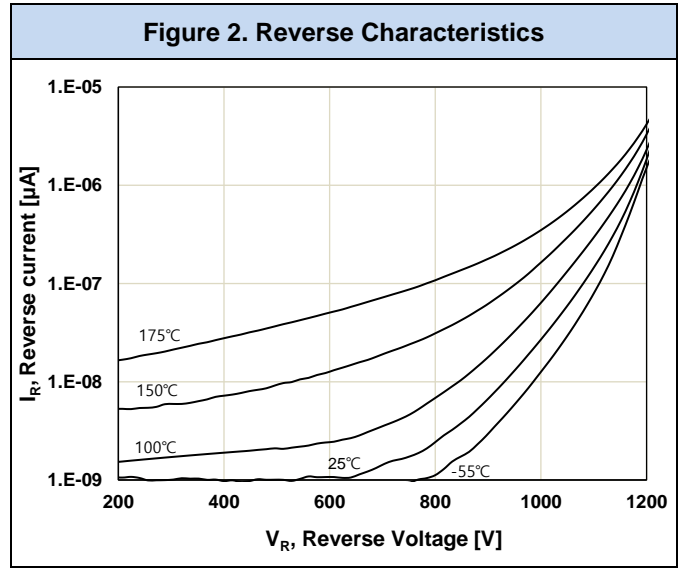
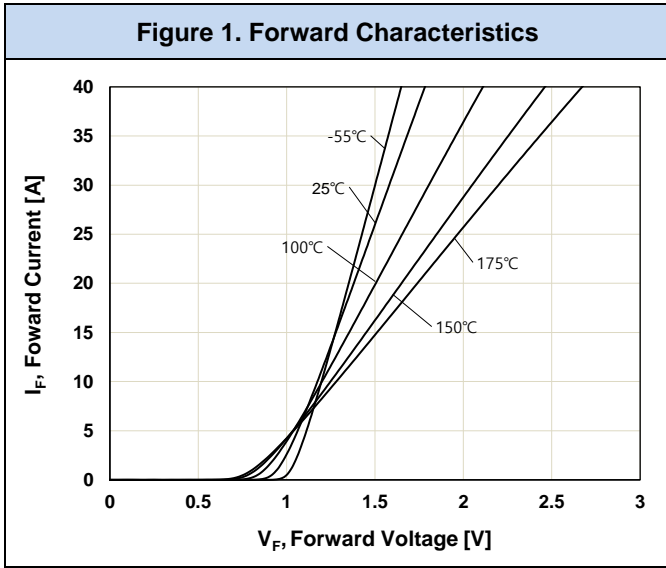
■ Thermal Characteristics

Symbol	Parameter	Value	Unit
R _{θJC}	Maximum Thermal Resistance, Junction to Case	0.45	°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 =20A, T _J =25°C		1.39	1.70	V
		I _F =20A, T _J =175°C		1.80		
I _R	Reverse Current	V _R =1200V, T _J =25°C			100	μA
		V _R =1200V, T _J =175°C			300	
Q _C	Total Capacitive Charge	V _R =800V, T _J =25°C		120		nC
C	Total Capacitance	V _R =1V, f=100kHz		1357		pF
		V _R =800V, f=100kHz		85		
E _C	Capacitance Stored Energy	V _R =800V		34		μJ

■ **Typical Characteristics** ($T_J=25^\circ\text{C}$ unless otherwise noted)



■ Typical Characteristics

Figure 7. Capacitive Characteristics

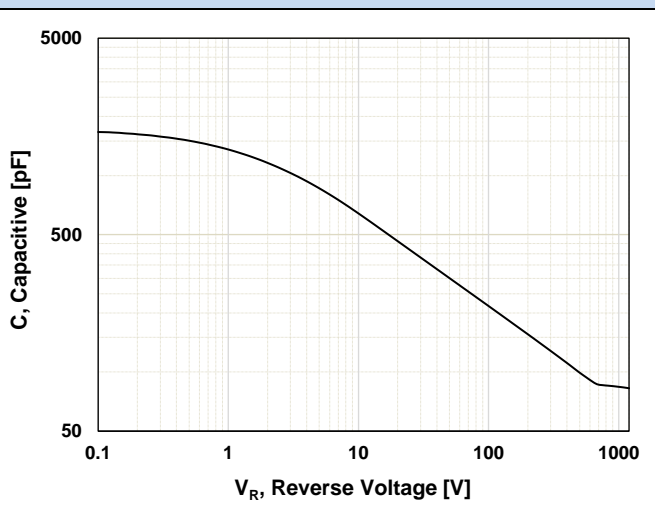
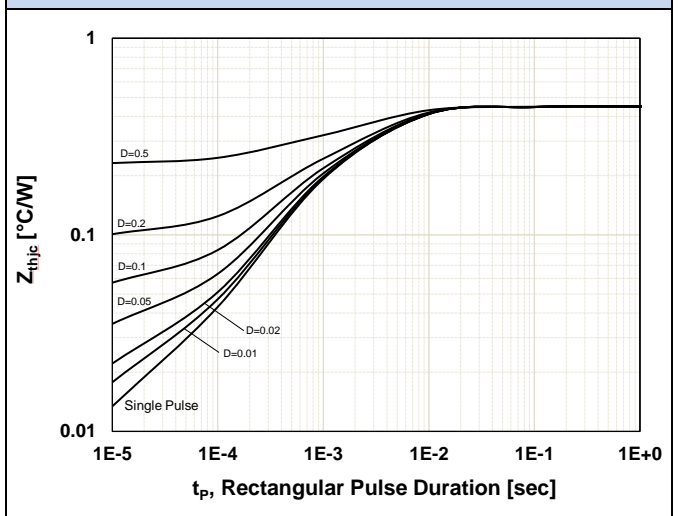
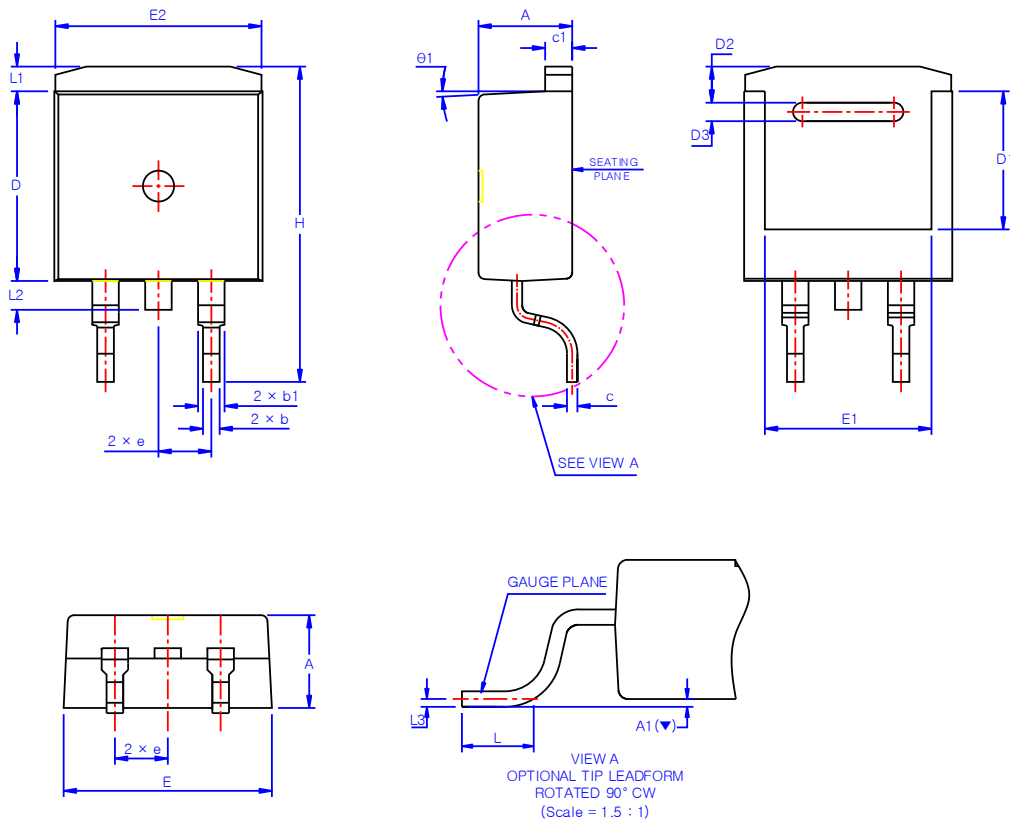


Figure 8. Transient Thermal Response Curve



Package Outlines TO-263-2L



SYMBOL	MIN	NOM	MAX
A	4.30	4.50	4.70
A1(▼)	0.00	-	0.25
b	0.70	0.80	0.90
b1	1.17	1.27	1.37
c	0.45	0.50	0.60
c1	1.25	1.30	1.40
D	9.00	9.20	9.40
D1	6.50	6.70	6.90
D2	1.65	1.75	1.85
D3	0.80	0.90	1.00
E	9.80	10.00	10.20
E1	7.80	8.00	8.20
E2	9.70	9.90	10.10
e	2.54 BSC		
H	15.00	15.30	15.60
L	2.00	2.30	2.60
L1	1.00	1.20	1.40
L2	1.20	1.40	1.60
L3	0.254 BSC		
theta1	(3°)		

NOTE

1. THESE DIMENSIONS DO NOT INCLUDE PROTRUSIONS OF THE MOLD.
2. THE "()" MARK IS THE REFERENCE
3. COPLANARITY : MAX 0.10mm
4. THE "L2" SYMBOL IS A PROTRUSION OF THE LEAD FRAME.

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