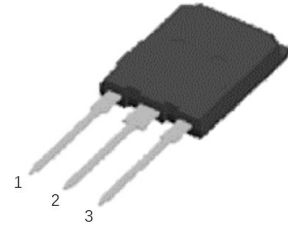


**SMDY200C120K****1200V,200A SIC SCHOTTKY BARRIER DIODE****FEATURE**

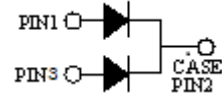
- . 1200V Schottky Diode,100% avalanche tested*
- . Zero Reverse Recovery/Zero Forward Recovery
- . High Efficiency Operation
- . Extremely Fast Switching
- . Temperature Independent Switching Behavior

TYPICAL APPLICATIONS

- . Switch mode power supply
- . Power factor correction Solar Invertor
- . Solar inverter
- . Uninterruptible power supply



TO-247plus-3L



*20% rating current,5 mH inductance.

MAXIMUM RATINGS ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

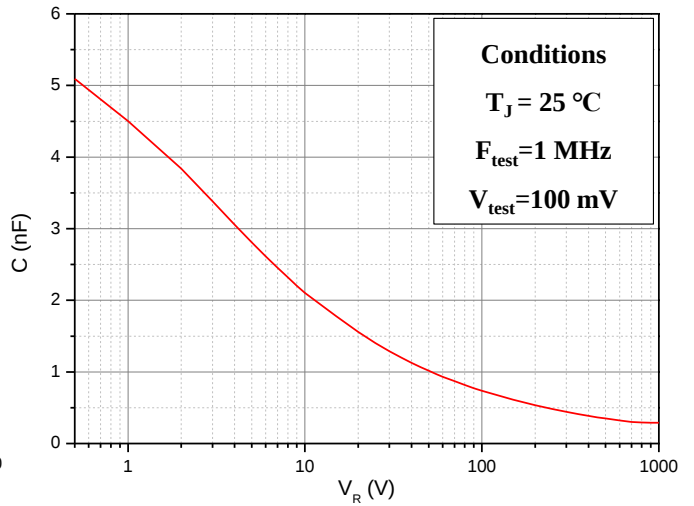
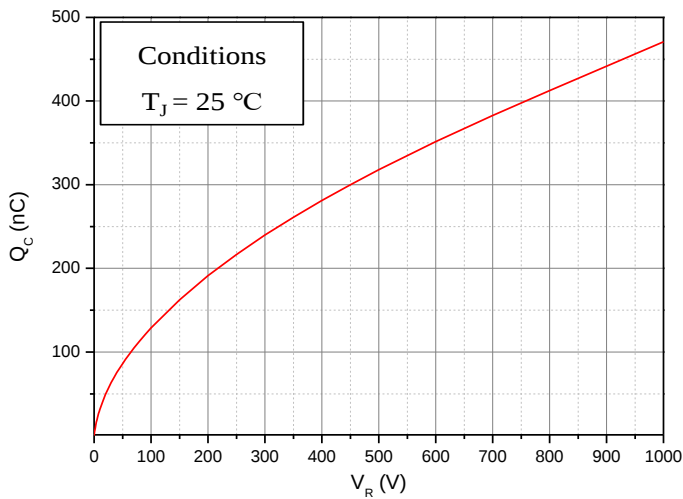
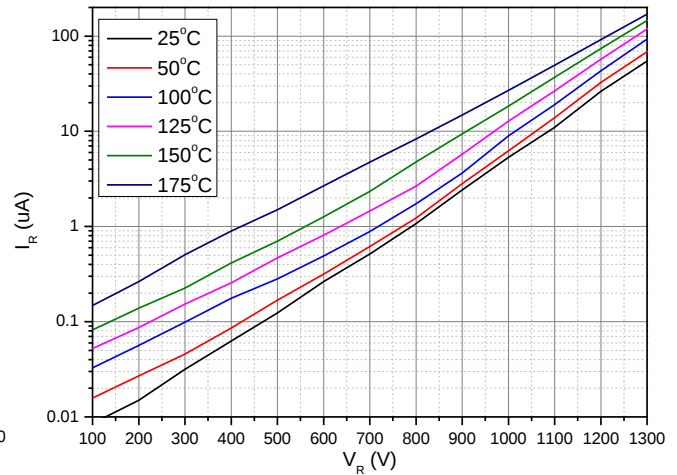
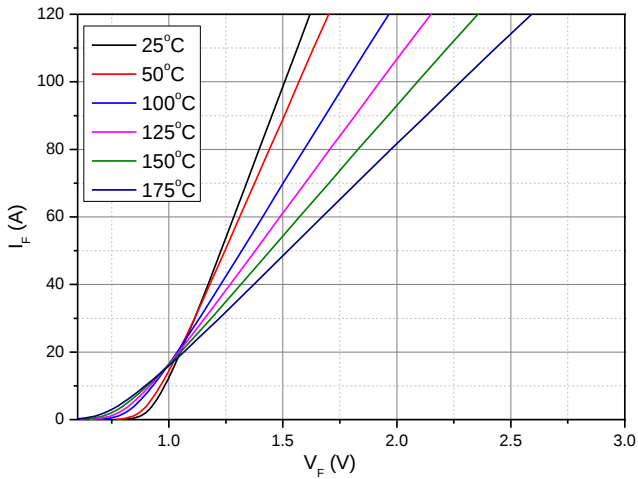
Parameter	Symbol	Value	Unit
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	1200	V
DC peak blocking Voltage	V_{DC}	1200	V
Maximum Average Forward Rectified Current <i>Per Leg</i> at $T_C=150^{\circ}\text{C}$ <i>Total device</i>	$I_{F(AV)}$	100 200	A
Non-Repetitive Peak Forward Surge Current $T_C=25^{\circ}\text{C}$, $t_p=10$ ms, Half Sine Pulse <i>Per Leg</i>	I_{FSM}	500	A
Total power dissipation $T_C=25^{\circ}\text{C}$	P_D	375	W
Operation Junction Temperature and Storage Temperature	T_J, T_{STG}	-40 to +175	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS-Per Leg ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

Parameter		Symbol	Min	Typ	Max	Unit
DC blocking voltage	$I_R = 250\mu\text{A}$, $T_J = 25^{\circ}\text{C}$	V_{DC}	1200			V
Forward voltage	$I_F = 100\text{A}$, $T_J = 25^{\circ}\text{C}$	V_F		1.5	1.75	V
	$I_F = 100\text{A}$, $T_J = 175^{\circ}\text{C}$			2.3		
Reverse current	$V_R = 1200\text{V}$, $T_J = 25^{\circ}\text{C}$	I_R		20	360	μA
	$V_R = 1200\text{V}$, $T_J = 175^{\circ}\text{C}$			260		
Total capacitive charge	$V_R = 800\text{V}$	Q_C		412	—	nC
Total capacitance	$V_R = 0\text{V}$, $T_J = 25^{\circ}\text{C}$, $f = 1\text{MHz}$	C		6116	—	pF
	$V_R = 400\text{V}$, $T_J = 25^{\circ}\text{C}$, $f = 1\text{MHz}$			388	—	
	$V_R = 800\text{V}$, $T_J = 25^{\circ}\text{C}$, $f = 1\text{MHz}$			292	—	

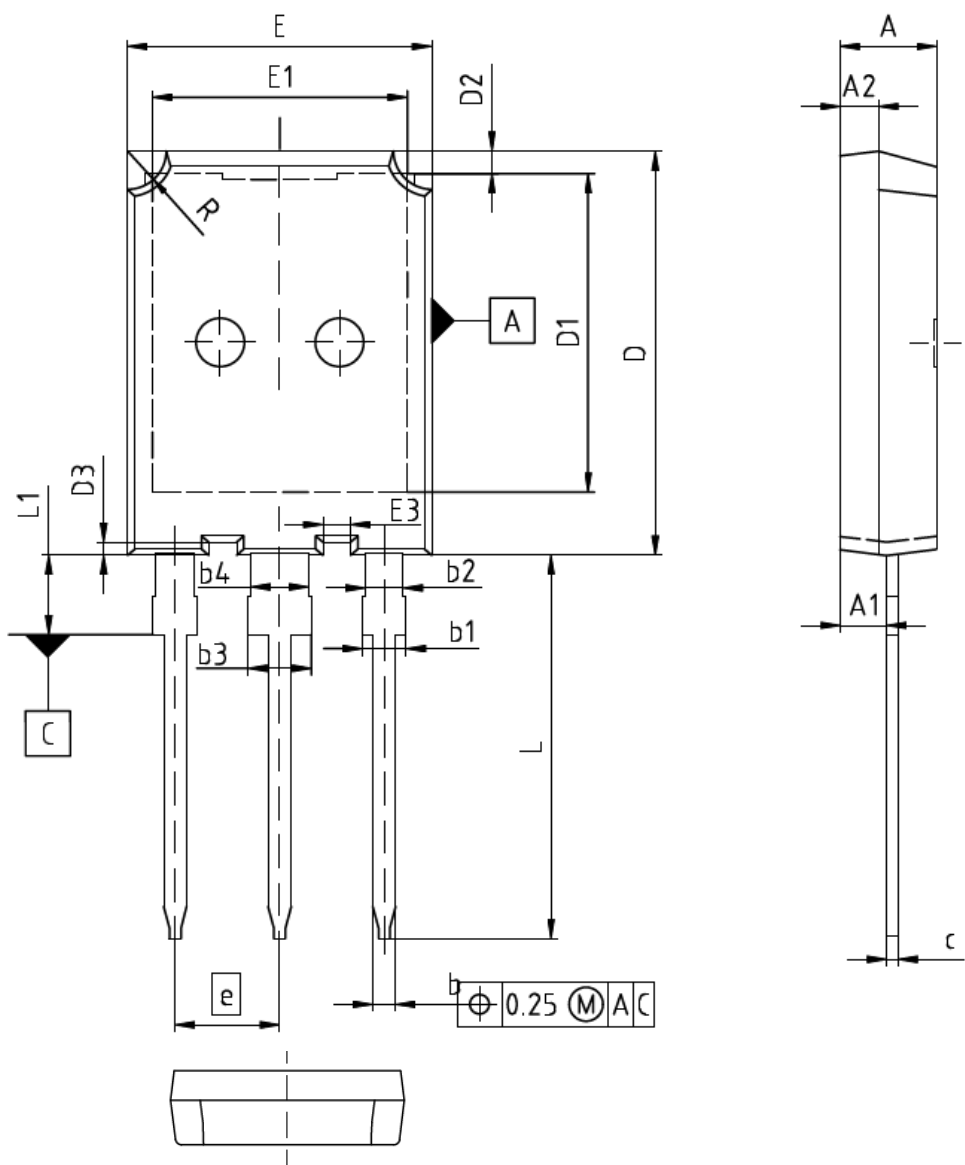
THERMAL CHARACTERISTICS ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Typ	Max	Unit
Typical Thermal Resistance Junction to Case	$R_{(JC)}$	0.4	—	$^{\circ}\text{C/W}$

**RATING AND CHARACTERISTIC CURVES-Per Leg**



PackageOutlines-TO-247Plus



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.90	5.10	0.193	0.201
A1	2.31	2.51	0.091	0.099
A2	1.90	2.10	0.075	0.083
b	1.16	1.26	0.046	0.050
b1	1.96	2.25	0.077	0.089
b2	1.96	2.06	0.077	0.081
c	0.59	0.66	0.023	0.026
D	20.90	21.10	0.823	0.831
D1	16.25	16.85	0.640	0.663
D2	1.05	1.35	0.041	0.053
D3	0.58	0.78	0.023	0.031
E	15.70	15.90	0.618	0.626
E1	13.10	13.50	0.516	0.531
E3	1.35	1.55	0.053	0.061
e	5.44 (BSC)		0.214 (BSC)	
N	3		3	
L	19.80	20.10	0.780	0.791
L1	-	4.30	-	0.169
R	1.90	2.10	0.075	0.083

