Features

Zeo Reverse Recovery Current
High Frequency Operation
Positive Temperature Coefficient on VF

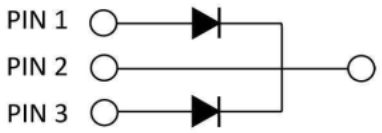
Application

Switch Mode Power Supplies
Power Factor Correction
PV Inverters

RoHS

Product Summary

V_{RRM}	1200	V
I_F	20	A



Maximum Ratings (T_c = 25°C unless otherwise specified)

Symbol	Parameter	Value	Unit	Test Conditions	Note
V_{RRM}	Repetitive Peak Reverse Voltage	1200	V		
V_{RSM}	Surge Peak Reverse Voltage	1200	V		
V_{DC}	DC Blocking Voltage	1200	V		
I_F	Continuous Forward Current	29* 16* 10*	A	T_C=25°C T_C=125°C T_C=140°C	Fig. 7
I_{FRM}	Repetitive Peak Forward Surge Current	50*	A	T_C=25°C, t_P=10 ms, Half Sine Wave	
I_{FSM}	Non-Repetitive Peak Forward Surge Current	70*	A	TC=25°C, t_P=10ms, Half Sine Wave	
$I_{F,Max}$	Non-Repetitive Peak Forward Surge Current	600*	A	T_C=25°C, t_P= 10 µs, Pulse	
P_{tot}	Power Dissipation	153* 66*	W	T_C=25°C T_C=110°C	Fig. 6
T_J , T_{stg}	Operating Junction and Storage Temperature	-55 to +175	°C		

Electrical Characteristics (Per Leg)

Symbol	Parameter	Typ.	Max.	Unit	Test Conditions	Note
V_F	Forward Voltage	1.5 2.2	1.8 3	V	I_F = 10 A T_J=25°C I_F = 10 A T_J=175°C	Fig. 1
I_R	Reverse Current	10 50	100 400	µA	V_R = 1200 V T_J=25°C V_R = 1200 V T_J=175°C	Fig. 2
Q_C	Total Capacitive Charge	50		nC	V_R = 600 V T_J = 25°C Qc=∫ ( )	Fig. 4
C	Total Capacitance	610 46 40		pF	V_R = 0 V, T_J = 25°C, f = 1 MHz V_R = 400 V, T_J = 25°C, f = 1 MHz V_R = 600 V, T_J = 25°C, f = 1 MHz	Fig. 3
E_C	Capacitance Stored Energy	15		µJ	V_R = 600 V	Fig. 5

Thermal Characteristics

Symbol	Parameter	Typ.	Unit	Note
$R_{\theta JC}$	Thermal Resistance from Junction to Case	0.98	°C/W	Fig. 5

Typical Performance

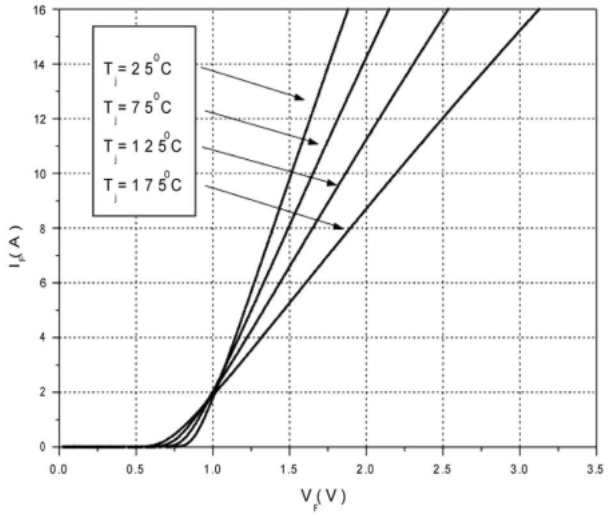
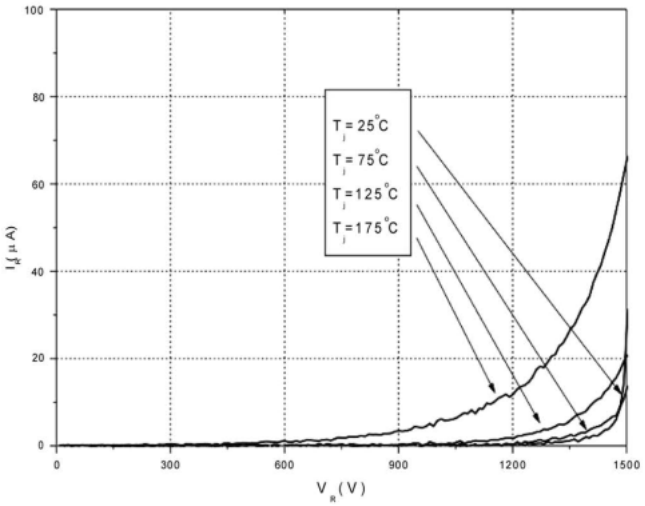


Figure 1.Forward CharacteristicsFigure



2. Reverse Characteristics

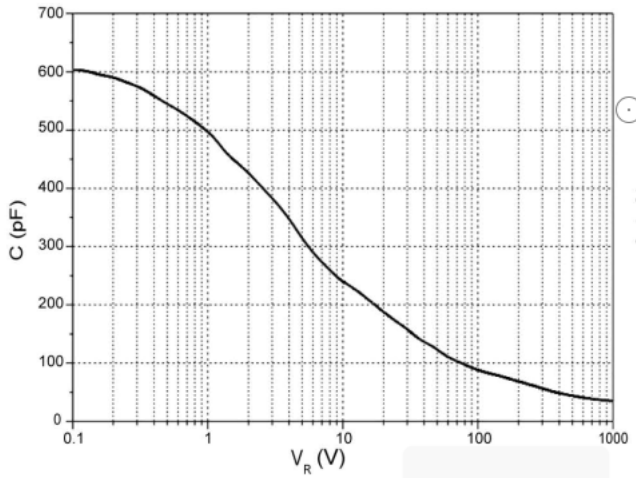


Figure 3.Capacitance vs. Reverse Voltage

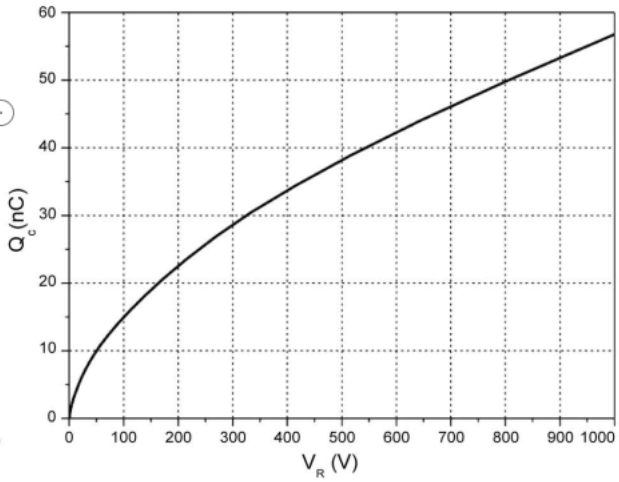


Figure 4. Total Capacitance Charge vs. Reverse Voltage

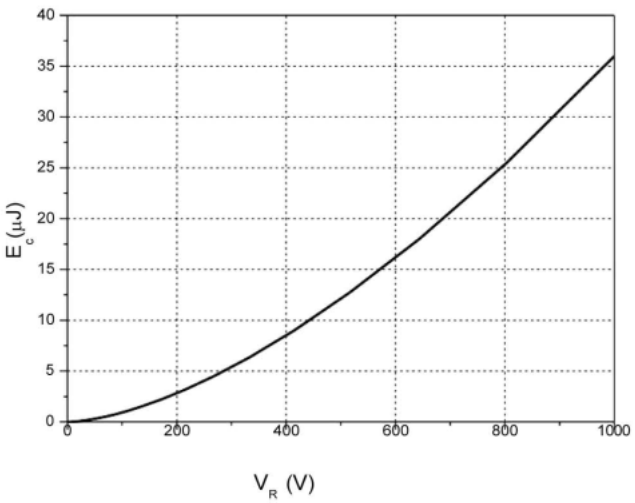


Figure 5. Capacitance Stored Energy

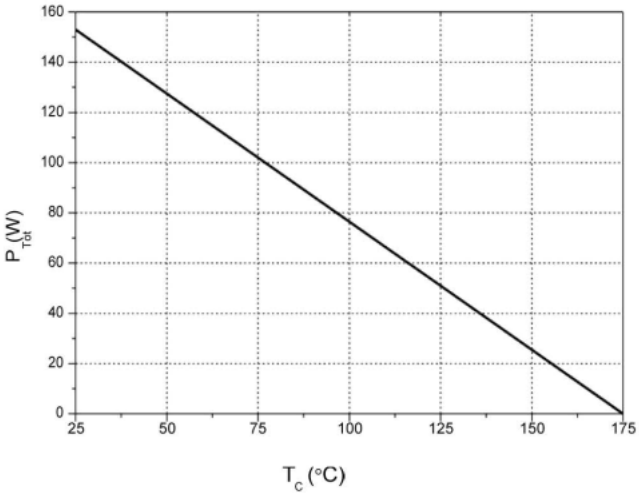


Figure 6. Power Derating

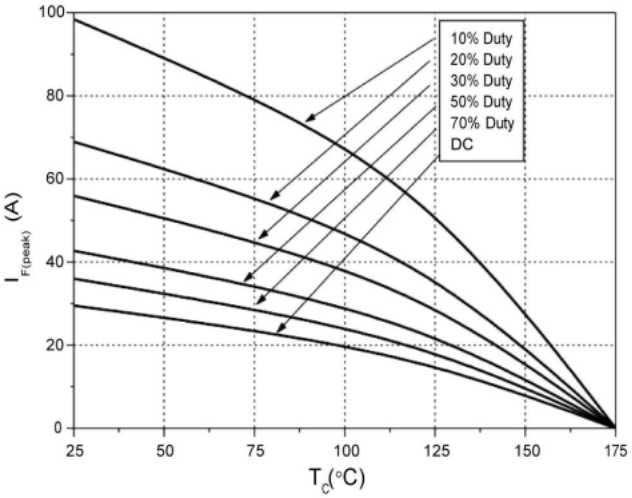


Figure 7. Current Derating

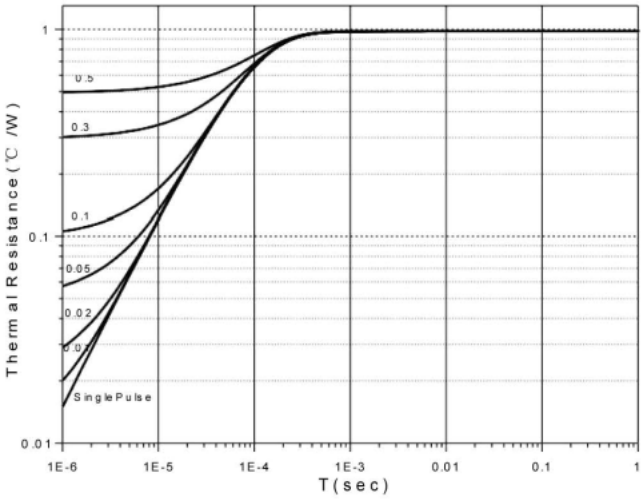


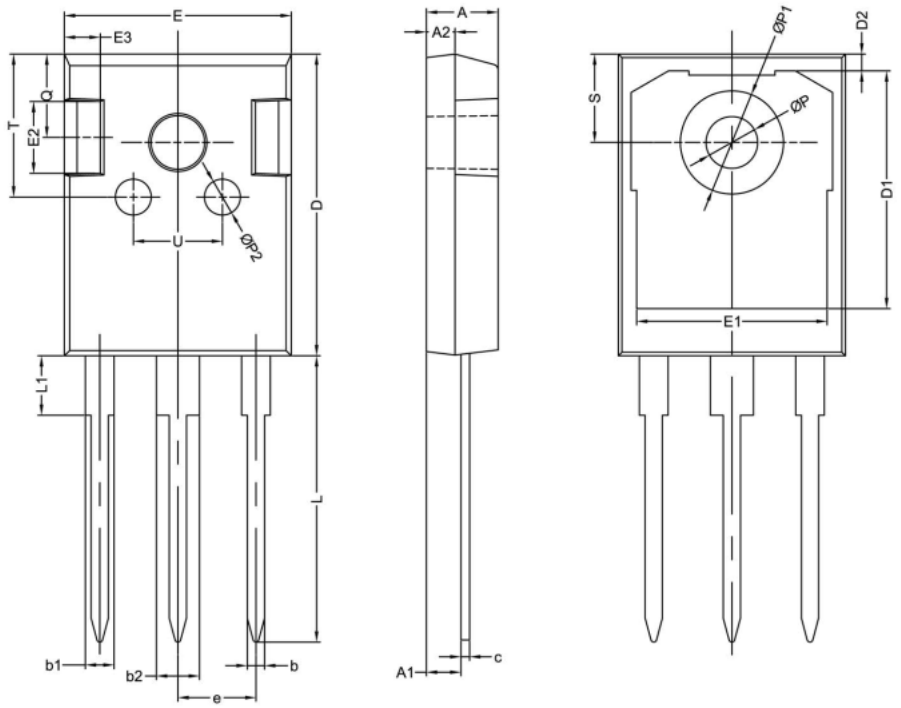
Figure 8. Transient Thermal Impedance

Ordering and Marking Information

Ordering Device No.	Marking	Package	Packing	Quantity
ASC20120X-T	正面丝印	TO247-3	Tube	30/Tube

PACKAGE	MARKING
TO247-3	

Package Dimensions



符号	机械尺寸/mm		
	最小值	典型值	最大值
A	4.80	5.00	5.20
A1	2.21	2.41	2.61
A2	1.90	2.00	2.10
b	1.10	1.20	1.35
b1		2.00	
b2		3.00	
c	0.55	0.60	0.75
D	20.80	21.00	21.20
D1		16.55	
D2		1.20	
E	15.60	15.80	16.0
E1		13.30	
E2		5.00	
E3		2.50	
e		5.44	
L	19.42	19.92	20.42
L1		4.13	
P	3.50	3.60	3.70
P1	-	-	7.40
P2		2.50	
Q		5.80	
S	6.05	6.15	6.25
T		10.00	
U		6.20	

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