

Features

- Low reverse current
- Good surge current capability
- Low capacitive charge
- No reverse recovery current

V_{RRM}	=	1200	V
$I_F (T_C=168^\circ\text{C})$	=	2	A
Q_C	=	12.4	nC

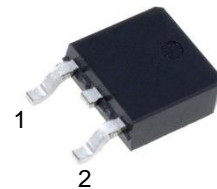
Benefits

- System efficiency improvement over Si diodes
- Higher switching frequency
- Increased power density
- Essentially No Switching Losses

Applications

- Switch Mode Power Supplies
- Uninterruptible power supplies
- On Board Charger
- UPS

Package



TO-252-2



Part Number	Package	Marking
ASZD002120D	TO-252-2	ASZD002120D

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}	Non-repetitive Reverse Voltage	1200	V		
I _F	Continuous Forward Current	10 5 2	A	T _C = 25°C T _C = 135°C T _C = 168°C	
I _{FRM}	Repetitive forward surge current	18 13	A	T _C = 25°C, t _p = 10ms, Half Sine Pulse T _C = 110°C, t _p = 10ms, Half Sine Pulse	
I _{FSM}	Non-Repetitive forward surge current	24 19	A	T _C = 25°C, t _p = 10ms, Half Sine Pulse T _C = 110°C, t _p = 10ms, Half Sine Pulse	
∫i ² dt	i ² t value	2.8 1.8	A ² S	T _C = 25°C, t _p = 10ms, Half Sine Pulse T _C = 110°C, t _p = 10ms, Half Sine Pulse	
P _{tot}	Power Dissipation	60 26	W	T _C = 25°C T _C = 110°C	Fig.6
T _J	Operating Junction Temperature	-55 to175	°C		
T _{STG}	Storage Temperature	-55 to150	°C		

Electrical Characteristics

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Conditions	Note
V _{DC}	DC blocking voltage	1200	/	/	V	T _J = 25°C	
V _F	Diode Forward Voltage	/	1.35 1.75	1.5 2.2	V	I _F = 2A, T _J = 25°C I _F = 2A, T _J = 175°C	Fig.1
I _R	Reverse Current	/	1 2	8 32	μA	V _R = 1200V, T _J = 25°C V _R = 1200V, T _J = 175°C	Fig.2
C	Total Capacitance	/	165 12 9	/	pF	V _R = 0V, T _J = 25°C, f = 1MHz V _R = 400V, T _J = 25°C, f = 1MHz V _R = 800V, T _J = 25°C, f = 1MHz	Fig.4
Q _C	Total Capacitive Charge	/	12.4	/	nC	V _R = 800V, T _J = 25°C Q _c = ∫ ₀ ^{V_R} C(V)dV	Fig.5

Thermal Characteristics

Symbol	Parameter	Typ.	Unit	Note
R _{th(jc)}	Thermal Resistance from Junction to Case	2.5	°C/W	Fig.8

Typical Performance

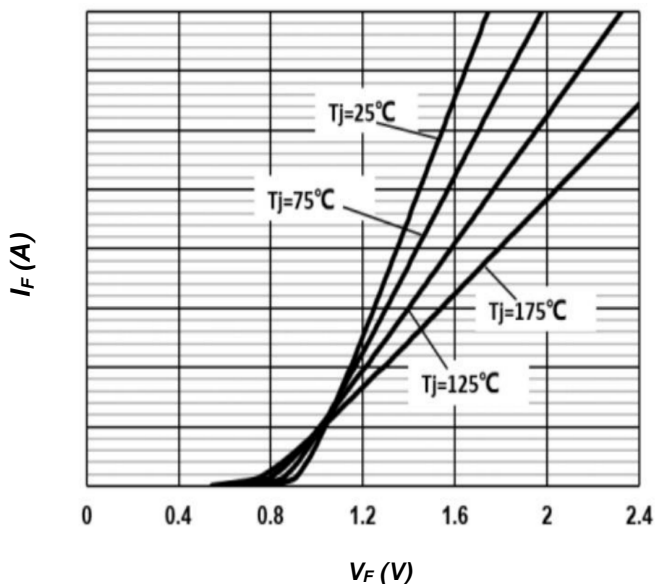


Figure 1. Typical forward characteristics

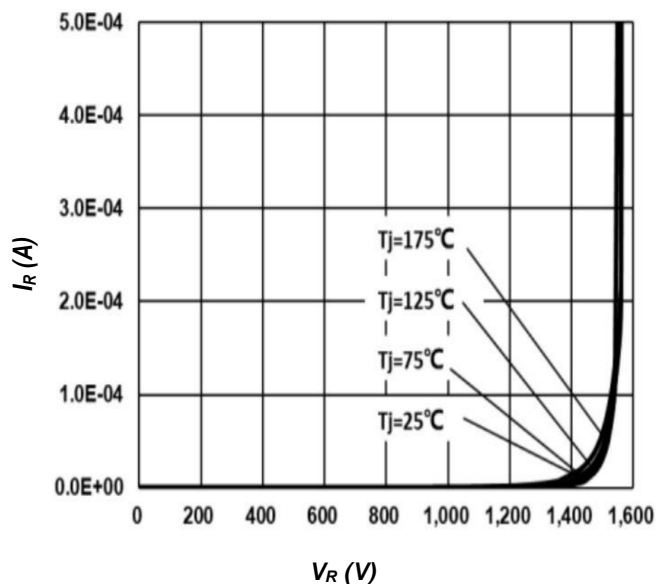


Figure 2. Typical reverse current as function of reverse voltage

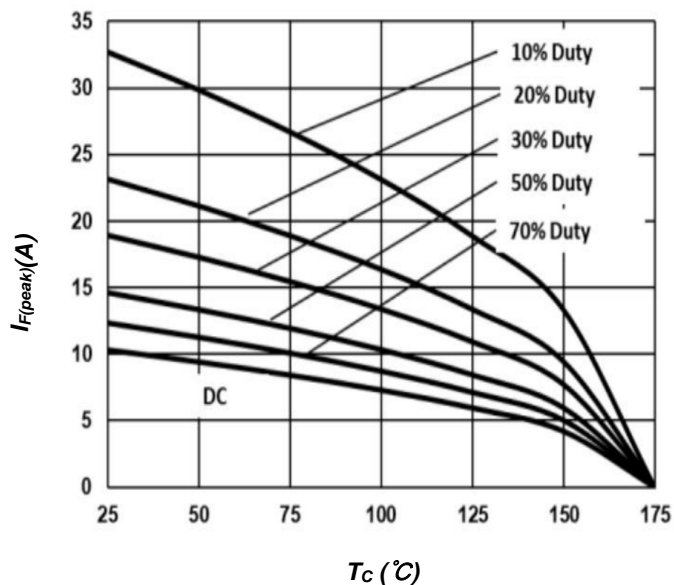


Figure 3. Diode forward current as function of temperature, D=duty cycle

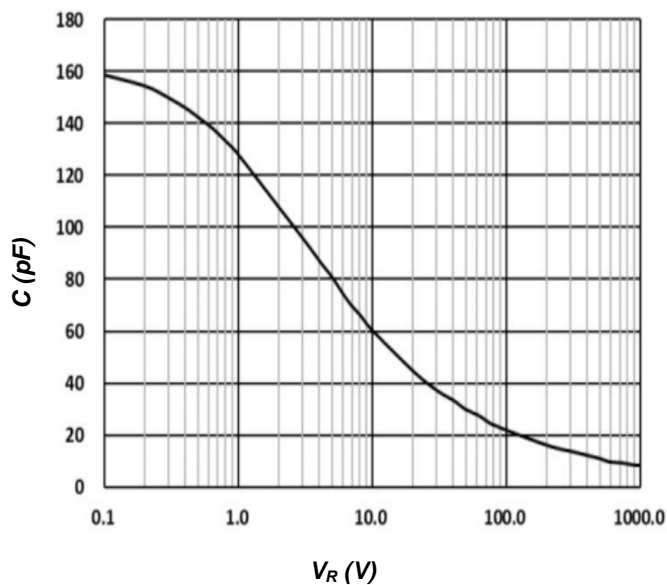


Figure 4. Typical capacitance as function of reverse voltage, C=f(V_R) ; T_J=25° C

Typical Performance

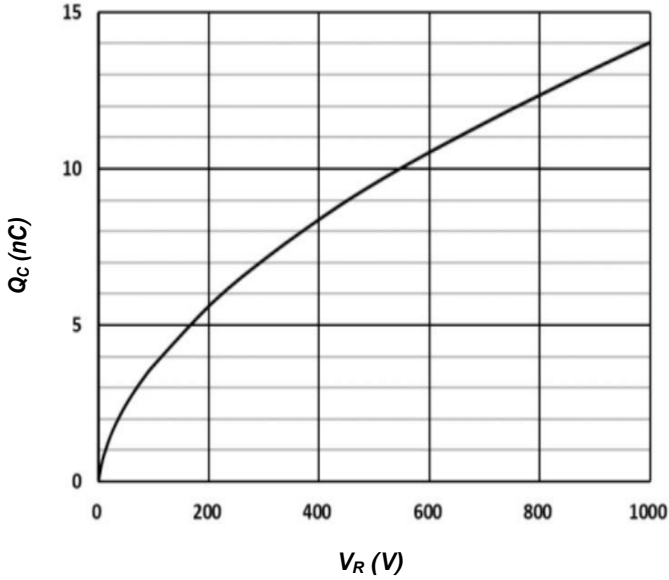


Figure 5. Typical reverse charge as function of reverse voltage

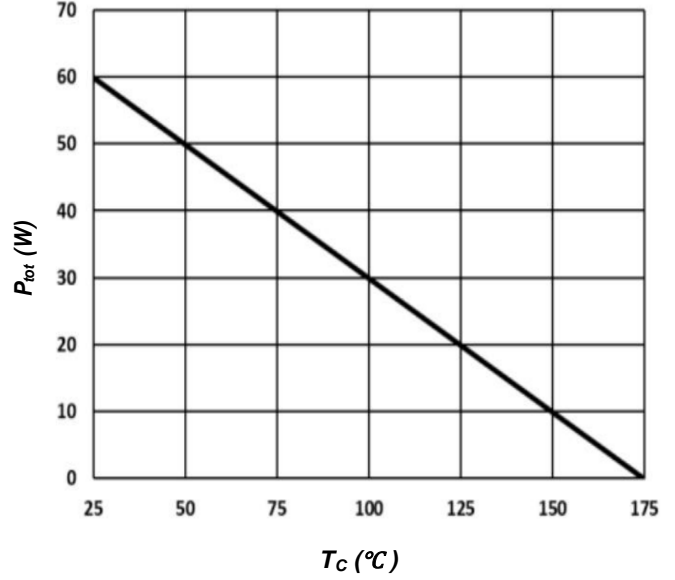


Figure 6. Power dissipation as function of case temperature

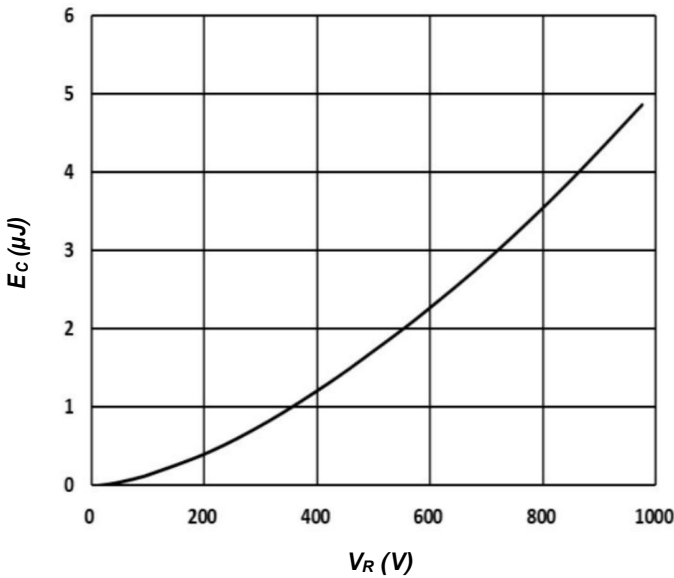


Figure 7. Capacitance stored energy

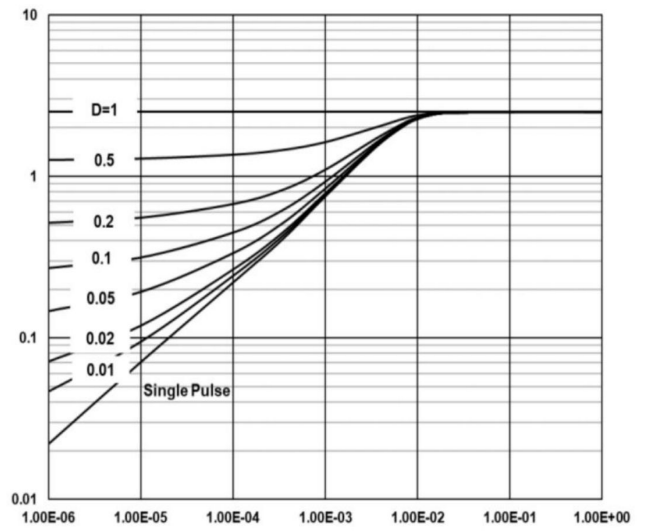
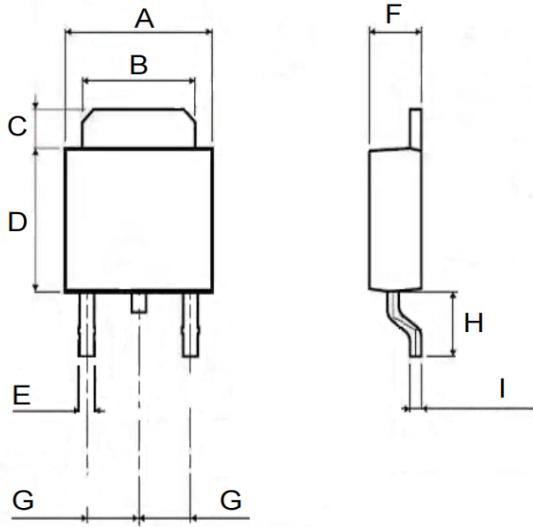


Figure 8. Max. transient thermal impedance

Package Dimensions

Package TO-252-2



Symbol	Min. (mm)	Typ. (mm)	Max. (mm)
A	6.30	6.60	6.73
B	5.16	5.34	5.46
C	0.89	1.08	1.27
D	6.00	6.12	6.23
E	0.64	0.76	0.88
F	2.20	2.30	2.40
G	-	2.286 BSC	-
H	-	2.743 REF	-
I	-	0.508 BSC	-