

Features

- High surge current capability
- No reverse recovery
- Positive Temperature Coefficient
- Specified dv/dt ruggedness
- Halogen-free / RoHS compliant

V_{RRM}	=	1200	V
$I_F (T_C=166^{\circ}C)$	=	2	A
Q_C	=	12	nC

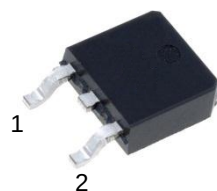
Benefits

- Extremely fast switching
- Low heat dissipation requirements
- Reduce size and cost of the system
- High-reliability
- System efficiency improvement

Applications

- Solar inverter
- Power factor correction
- Data Center
- Switch mode power supply
- AC/DC converters

Package



TO-252-2



Part Number	Package	Marking
ASLD002120D	TO-252-2	ASLD002120D

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

Symbol	Parameter		Value	Unit	Note
V _{RRM}	Repetitive peak reverse voltage		1200	V	
I _F	Continuous forward current	T _c =25°C	10	A	Figure 3
		T _c =135°C	5	A	
		T _c =166°C	2	A	
I _{FSM}	Non-repetitive forward surge current	T _c =25°C, t _p =10ms,Half sine pulse	18	A	
		T _c =110°C, t _p =10ms,Half sine pulse	16	A	
I _{FRM}	Repetitive Peak Forward Surge Current	T _c =25°C, t _p =10ms,Half sine pulse	16	A	
∫i ² dt	i ² t value	T _c =25°C, t _p =10ms	1.62	A ² S	
		T _c =110°C, t _p =10ms	1.28	A ² S	
P _{tot}	Power Dissipation	T _c =25°C	83	W	Figure 4
		T _c =110°C	36	W	
		T _c =150°C	14	W	
T _j , T _{stg}	Operating and Storage Temperature		-55 to +175	°C	

Electrical Characteristics (T_c=25°C unless otherwise noted)

Symbol	Parameter	Test Conditions	Value			Unit	Note
			Min.	Typ.	Max.		
V _{DC}	DC blocking voltage		1200	-	-	V	
V _F	Forward voltage	I _F =1A	-	1.17	-	V	Figure 1
		I _F =2A, T _c =25°C	-	1.38	1.60	V	
		I _F =2A, T _c =175°C	-	2.0	-	V	
I _R	Reverse current	V _R =1200V, T _c =25°C	-	1.0	50	uA	Figure 2
		V _R =1200V, T _c =175°C	-	4.0	-	uA	
Q _C	Total capacitive charge	V _R =800V	-	12	-	nC	Figure 6
C	Total capacitance	V _R =1V, f=1MHZ	-	125	-	pF	Figure 5
		V _R =400V, f=1MHZ	-	12	-	pF	
		V _R =800V, f=1MHZ	-	9	-	pF	
E _C	Capacitance Stored Energy	V _R =800V	-	3.70	-	uJ	Figure 7

Thermal Characteristics

Symbol	Parameter	Value		Unit	Note
		Typ.	Max.		
$R_{th(j-c)}$	Thermal resistance (Junction to case)	1.81	-	°C/W	Figure 8

Electrical Characteristic Curves

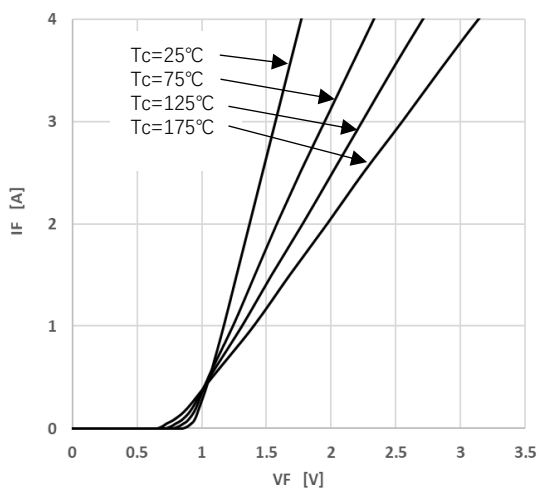


Figure 1 Forward Characteristics

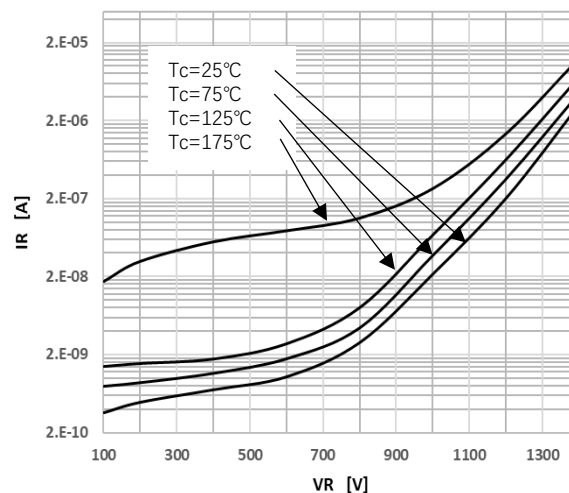


Figure 2 Reverse Characteristics

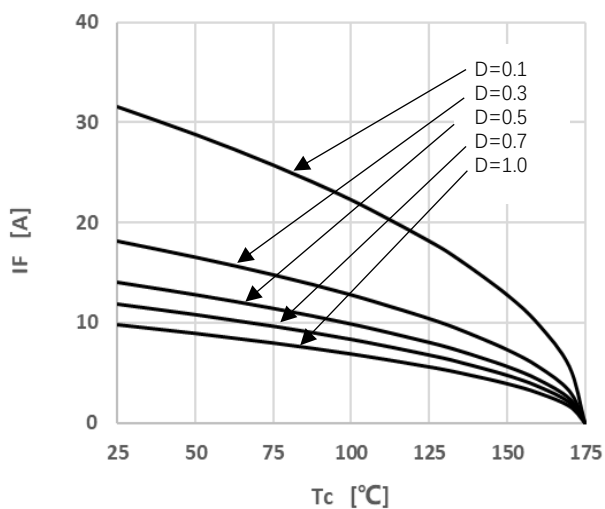


Figure 3 Peak Forward Current Derating

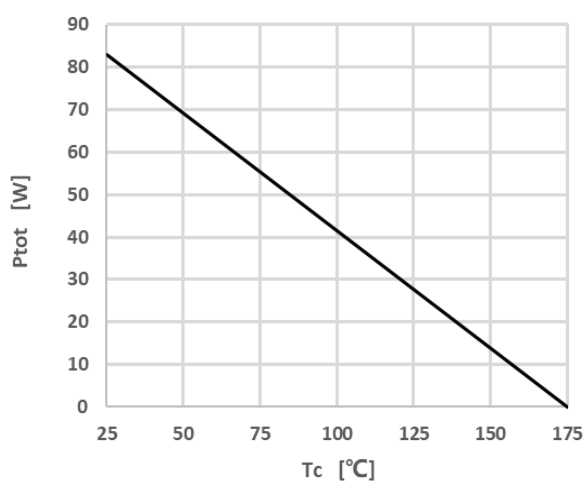


Figure 4 Power Dissipation

Electrical Characteristic Curves

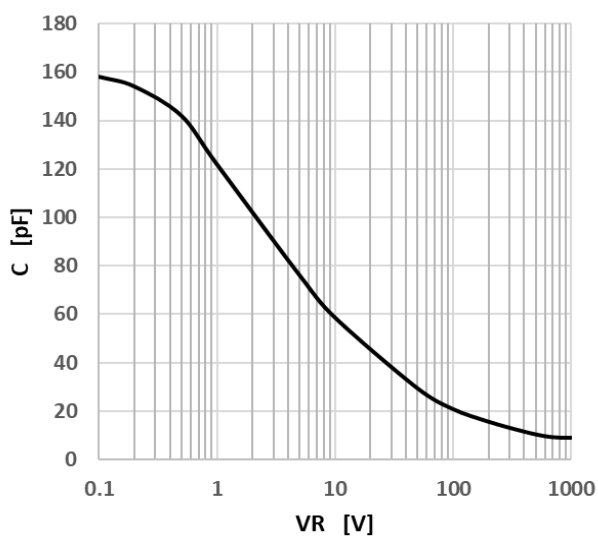


Figure 5 Capacitance vs. Reverse Voltage

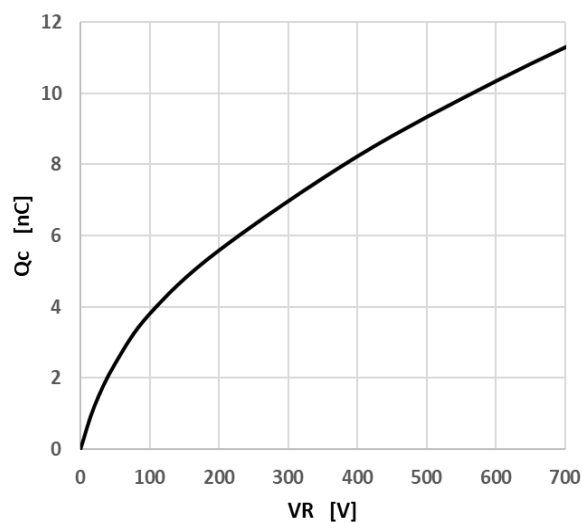


Figure 6 Capacitance Charge vs. Reverse Voltage

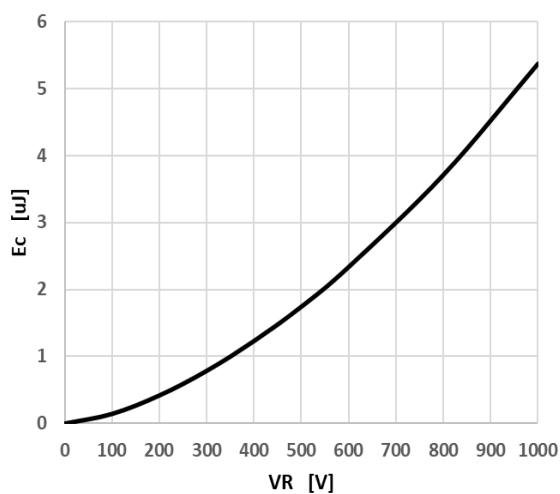


Figure 7 Capacitance Stored Energy

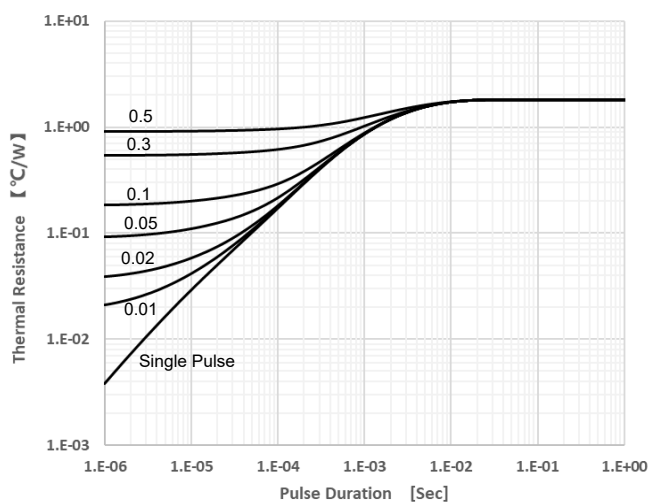
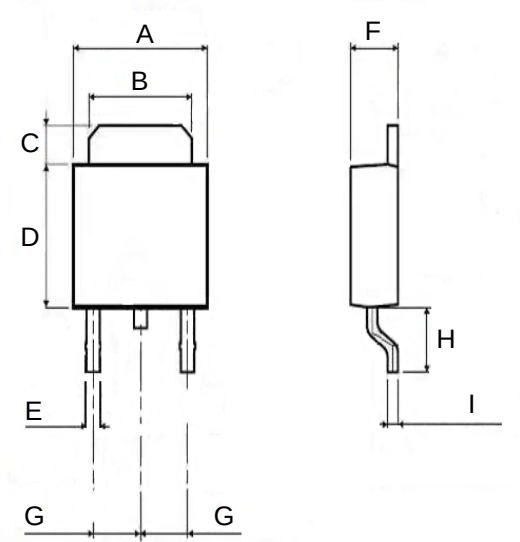


Figure 8 Transient Thermal Impedance

Package Dimensions

Package TO-252-2



Symbol	Min. (mm)	Typ. (mm)	Max. (mm)
A	6.30	6.60	6.73
B	5.21	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	-