

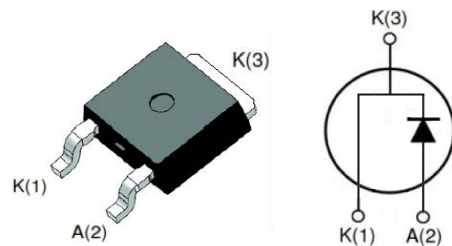
Features

- Ease of Paralleling
- Zero reverse recovery current
- Zero forward recovery voltage
- Temperature independent switching behaviour
- High temperature operation
- High frequency operation

Key Characteristics		
V_{RRM}	1200	V
$I_F, T_c \leq 150^\circ\text{C}$	10	A
Q_c	69	nC

Benefits

- Unipolar rectifier
- Substantially reduced switching losses
- No thermal run-away with parallel devices
- Reduced heat sink requirements



Applications

- Switch Mode Power Supplies (SMPS)
- Boost diodes in PFC or DC/DC stages
- Motor drives
- Solar application, UPS
- Power Switching Circuits

Part No.	Package Type	Marking
ASD10120D	TO-252-2	ASD10120D

Maximum Ratings

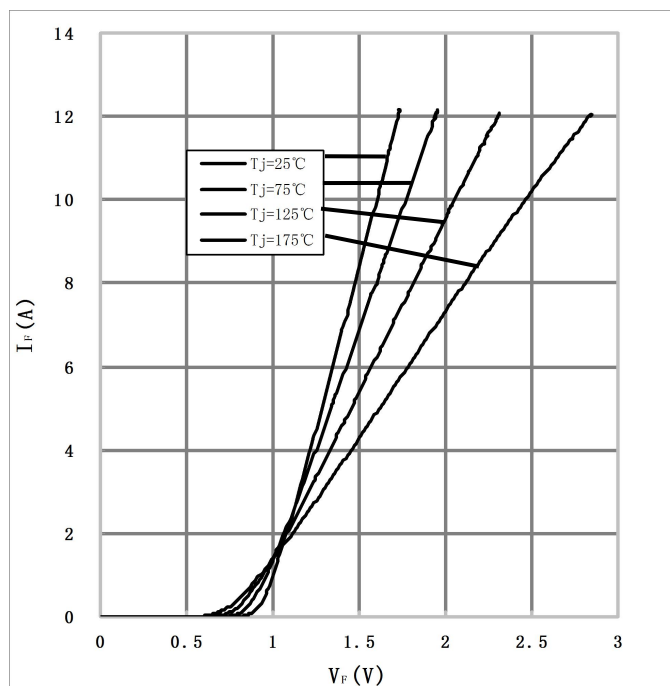
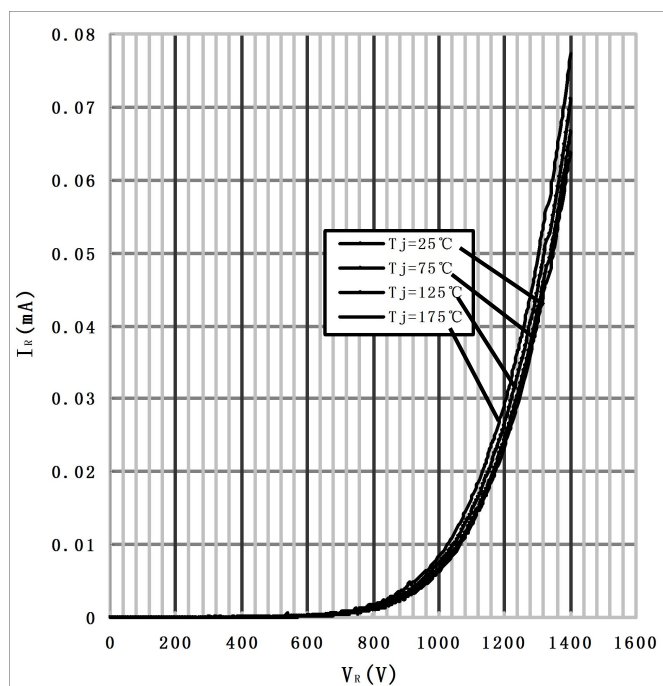
Parameter	Symbol	Test Condition	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}		1200	V
Surge Peak Reverse Voltage	V_{RSM}		1200	V
DC Blocking Voltage	V_{DC}		1200	V
Continuous Forward Current	I_F	$T_C=25^{\circ}\text{C}$ $T_C=135^{\circ}\text{C}$ $T_C=150^{\circ}\text{C}$	25.9 12.5 10	A
Repetitive Peak Forward Surge Current	I_{FRM}	$T_C=25^{\circ}\text{C}$, $t_p=10\text{ms}$, Half Sine Wave, $D=0.3$	60	A
Non-repetitive Peak Forward Surge Current	I_{FSM}	$T_C=25^{\circ}\text{C}$, $t_p=10\text{ms}$, Half Sine Wave	140	A
Power Dissipation	P_{TOT}	$T_C=25^{\circ}\text{C}$	141.5	W
		$T_C=110^{\circ}\text{C}$	62	W
Operating Junction	T_J		-55°C to 175°C	$^{\circ}\text{C}$
Storage Temperature	T_{stg}		-55°C to 175°C	$^{\circ}\text{C}$
Mounting Torque		M3 Screw 6-32 Screw	1 8.8	Nm lbf-in

Thermal Characteristics

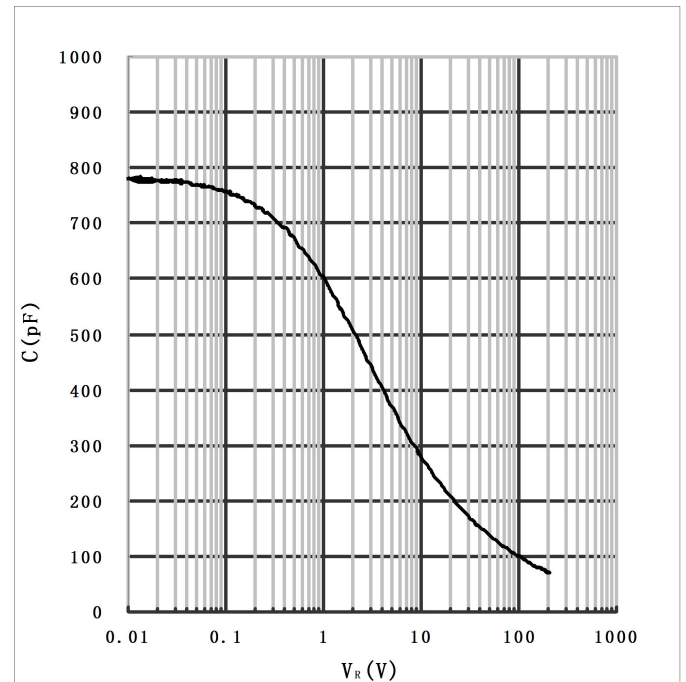
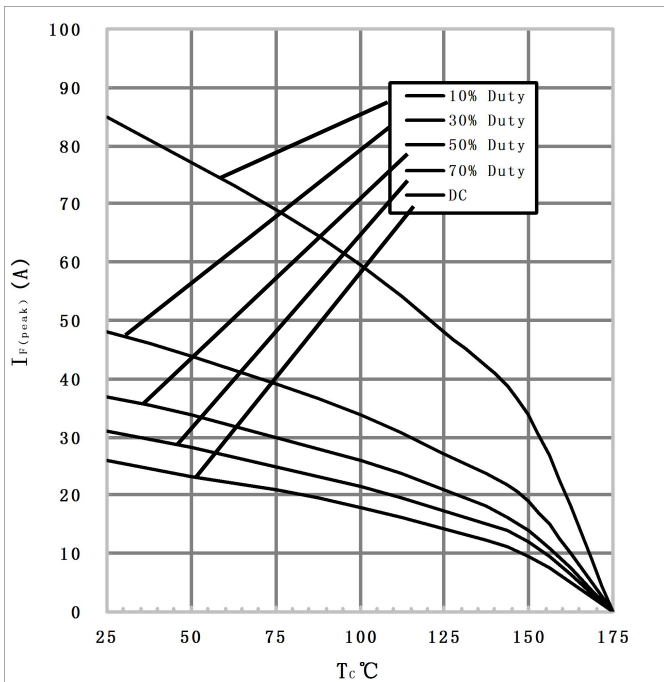
Parameter	Symbol	Test Condition	Value	Unit
			Typ.	
Thermal resistance from junction to case	R_{thJC}		1.06	$^{\circ}\text{C}/\text{W}$

Electrical Characteristics

Parameter	Symbol	Test Conditions	Numerical		Unit
			Typ.	Max.	
Forward Voltage	V_F	$I_F=10A, T_J=25^{\circ}C$	1.63	1.7	V
		$I_F=10A, T_J=175^{\circ}C$	2.55	3	
Reverse Current	I_R	$V_R=1200V, T_J=25^{\circ}C$	10	50	μA
		$V_R=1200V, T_J=175^{\circ}C$	20	100	
Total Capacitive Charge	Q_C	$V_R=800V, T_J=150^{\circ}C$ $Q_C = \int_0^{V_R} C(V) dV$	69	-	nC
Total Capacitance	C	$V_R=0V, T_J=25^{\circ}C, f=1MHz$	770	790	pF
		$V_R=400V, T_J=25^{\circ}C, f=1MHz$	52	54	
		$V_R=800V, T_J=25^{\circ}C, f=1MHz$	50	51	

Performance Graphs1) Forward IV characteristics as a function of T_J :2) Reverse IV characteristics as a function of T_J :

4) Capacitance vs. reverse voltage :



SYMBOL	DIMENSIONAL REQMTS		
	MIN	NOM	MAX
E	6.40	6.60	6.731
L	1.40	1.52	1.77
L1	2.743 REF		
L2	0.508 BSC		
L3	0.89	--	1.27
L5	--	--	--
D	6.00	6.10	6.223
H	9.40	10.00	10.40
b	0.64	0.76	0.88
b2	0.77	0.84	1.14
b3	5.21	5.34	5.46
e	2.286 BSC		
A	2.20	2.30	2.38
A1	0	--	0.127
c	0.46	0.50	0.60
c2	0.46	0.50	0.58
D1	5.21	--	--
E1	4.40	--	--
θ	0°	--	10°

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