

FDCA18S120

<http://www.fujielectric.com/products/semiconductor/>
FUJI Diode

SiC Schottky Barrier Diode

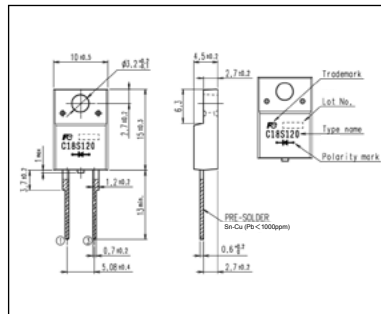
Features

- Ultra Low IR
- Low V_F
- T_J MAX = 175°C
- High reliability at higher temperatures

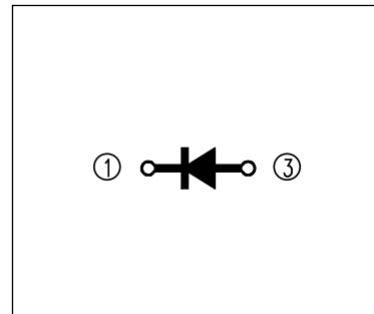
Applications

- High frequency operation
- DC-DC converters
- AC adapter

Outline Drawings [mm]



Connection diagram



Maximum Ratings and Characteristics

Maximum ratings (at $T_a=25^\circ\text{C}$ Unless otherwise specified)

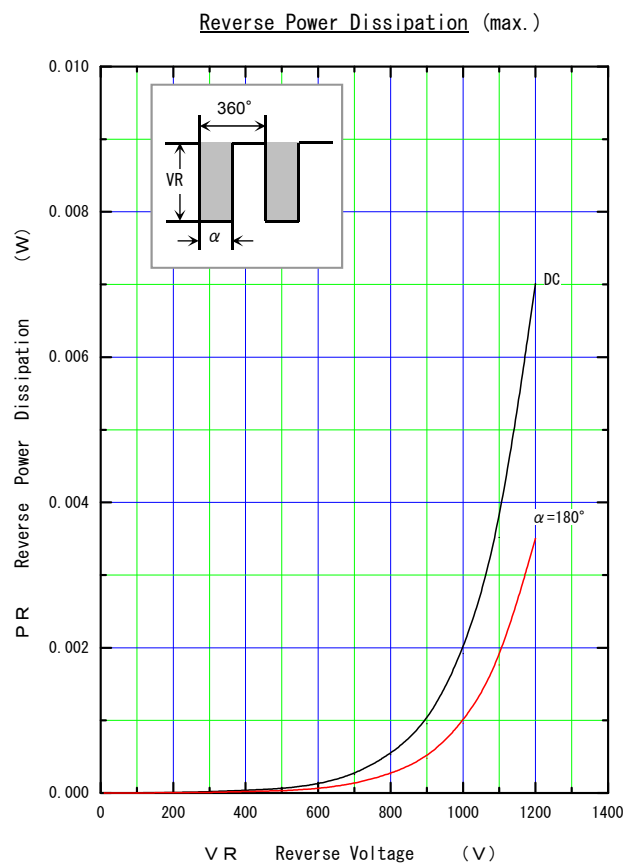
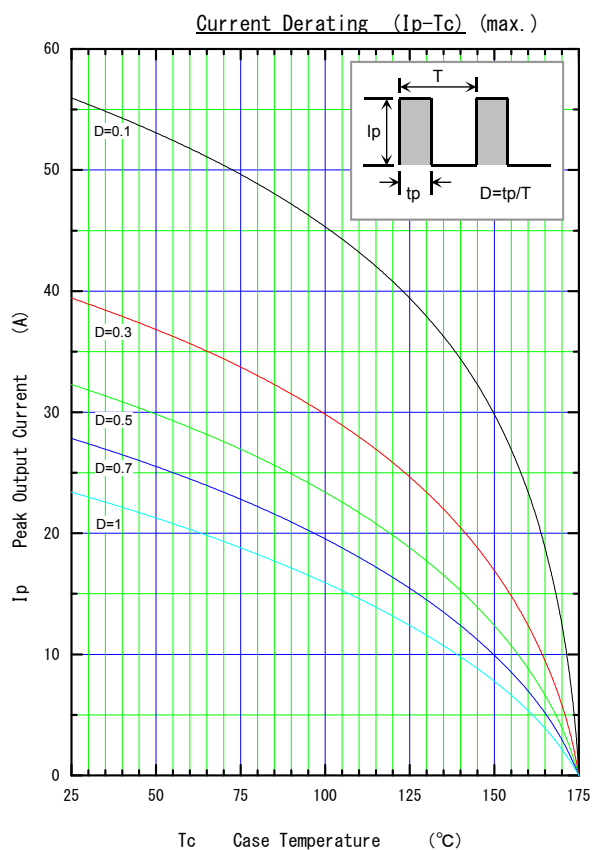
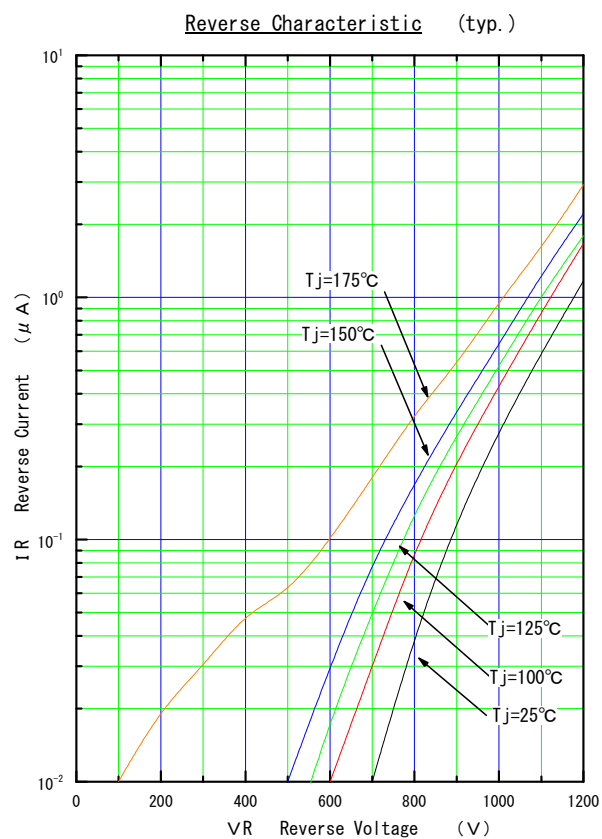
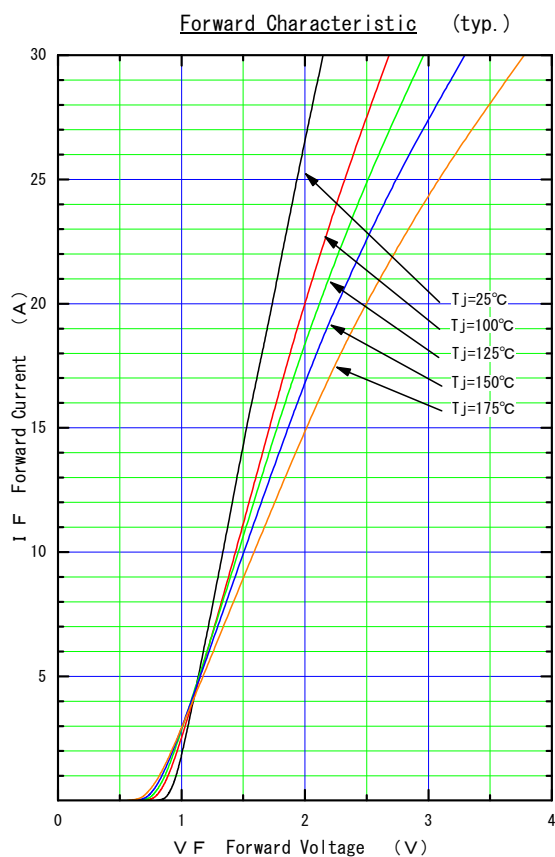
Item	Symbols	Conditions	Ratings	Units
Repetitive peak reverse voltage	V_{RRM}		1200	V
Isolating voltage	V_{iso}	Terminals-to-case, AC.1min	1500	V
Continuous forward current	I_F	$D=1$, $T_c<82^\circ\text{C}$	18	A
Non-repetitive forward surge current	I_{FSM}	Sine wave, 10ms 1shot	90	A
Operating junction temperature	T_J		175	$^\circ\text{C}$
Storage temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical characteristics (at $T_a=25^\circ\text{C}$ Unless otherwise specified)

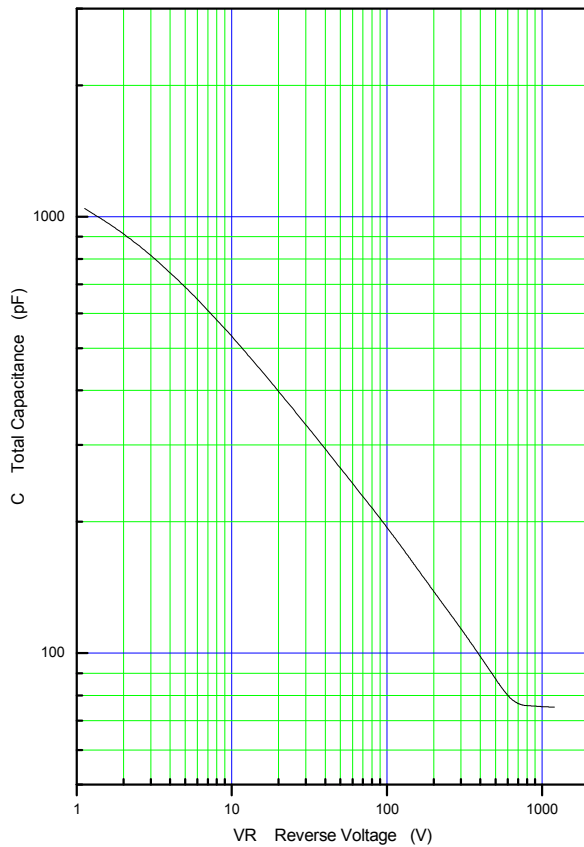
Item	Symbols	Conditions	Min.	Max.	Units
Forward voltage	V_F	$I_F = 18\text{ A}$	1.10	1.80	V
Reverse current	I_R	$V_R = V_{RRM}$	-	10	μA
Total Capacitive Charge	Q_C	$V_R=160\text{V}$, $I_F=18\text{A}$, $di/dt=100\text{A}/\mu\text{s}$, $T_J=25^\circ\text{C}$	42	51	nC
Switching time	T_c		50	55	ns
Total Capacitance	C	$V_R=0\text{V}$, $T_J=25^\circ\text{C}$, $f=1\text{MHz}$	1330	1490	pF
		$V_R=400\text{V}$, $T_J=25^\circ\text{C}$, $f=1\text{MHz}$	100	115	
		$V_R=1200\text{V}$, $T_J=25^\circ\text{C}$, $f=1\text{MHz}$	75	85	
Thermal resistance	$R_{th(j-c)}$	Junction to case	-	1.3	$^\circ\text{C}/\text{W}$

Mechanical characteristics

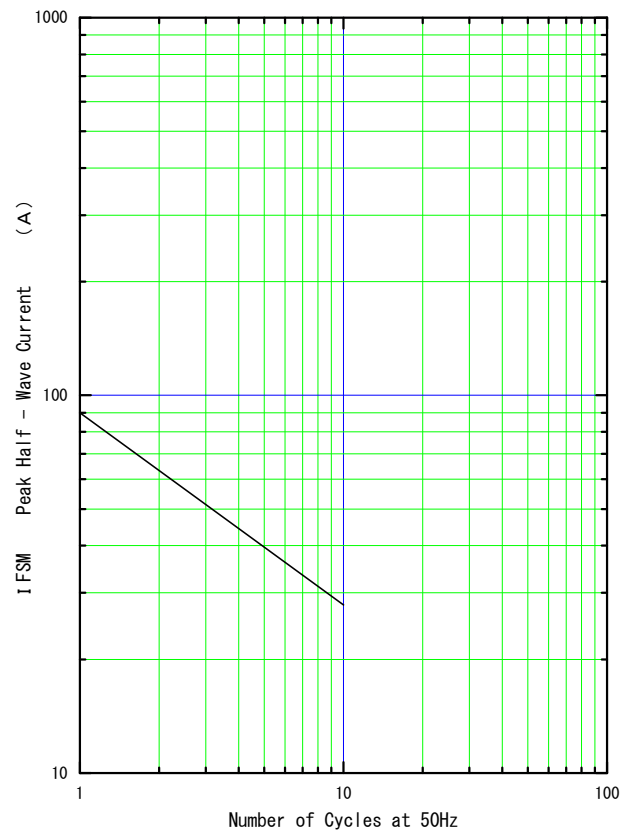
Item	Conditions	Ratings	Units
Mounting torque	Recommended torque	0.3 to 0.5	N·m
Approximate mass		2.0	g



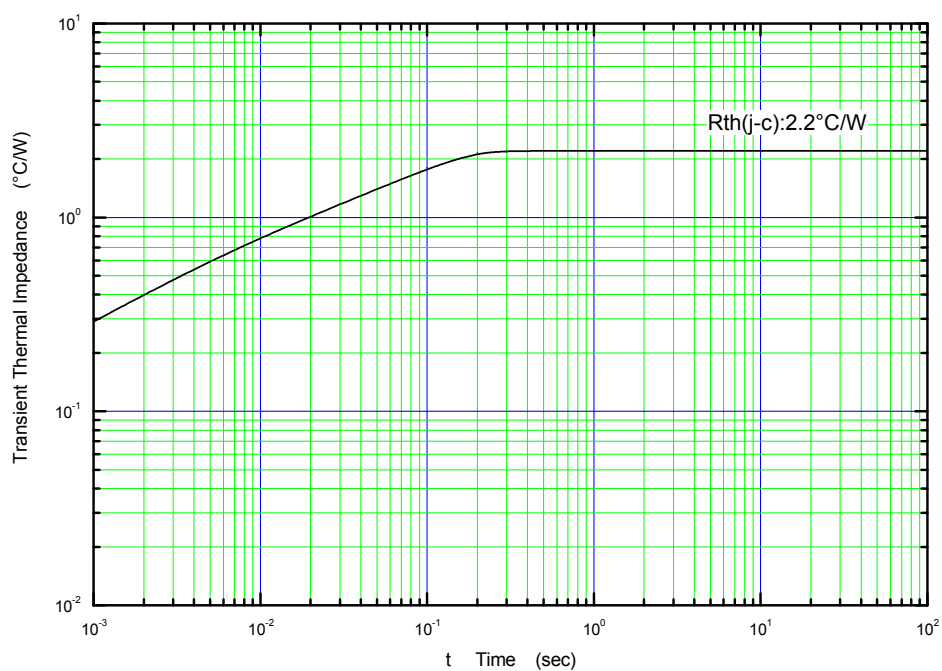
Total Capacitance Characteristic (typ.)



Surge Capability (max.)



Transient Thermal Impedance (max.)



WARNING

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 - Electrical home appliances
 - Personal equipment
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