

FDCP10S65

SiC Schottky Barrier Diode

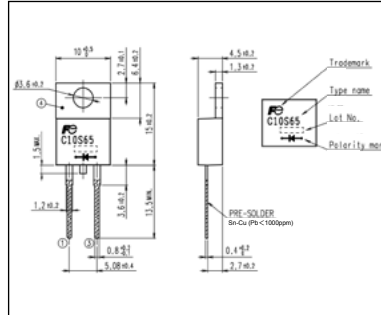
Features

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

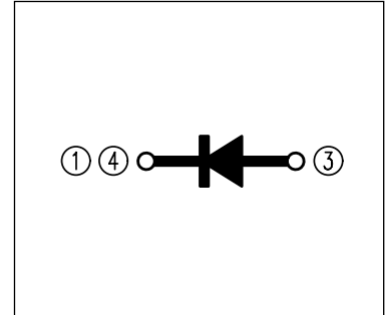
Applications

- 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}		650	V
Continuous forward current	I_F	$D=1, T_c < 131^\circ\text{C}$	10	A
Non-repetitive forward surge current	I_{FSM}	Sine wave, 10ms 1shot	50	A
Operating junction temperature	T_J		175	$^\circ\text{C}$
Storage temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

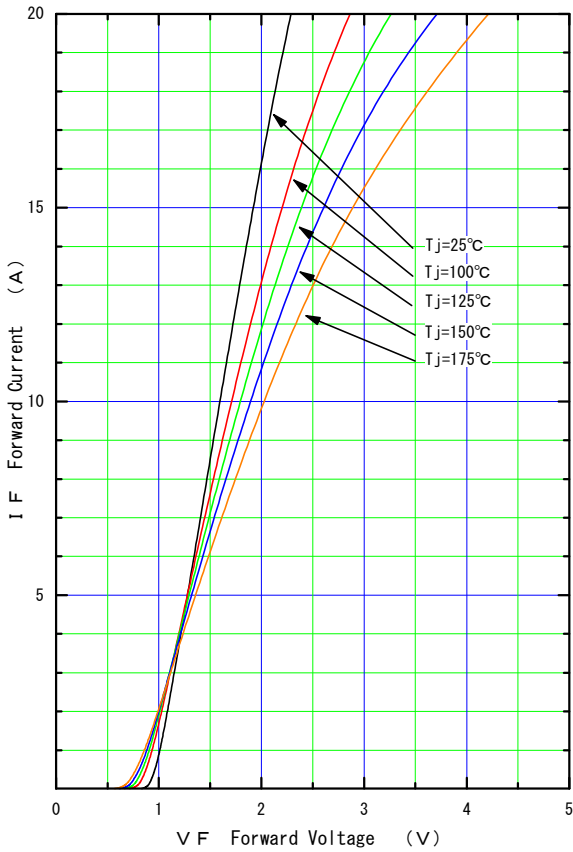
Electrical characteristics (at $T_a=25^\circ\text{C}$ Unless otherwise specified)

Item	Symbols	Conditions	Min.	Max.	Units
Forward voltage	V_F	$I_F = 10\text{A}$	1.10	1.80	V
Reverse current	I_R	$V_R = V_{RRM}$	-	10	μA
Total Capacitive Charge	Q_c	$V_R=170\text{V}, I_F=10\text{A},$ $di/dt=100\text{A}/\mu\text{s}, T_J=25^\circ\text{C}$	25	35	nC
Switching time	T_c		40	50	ns
Total Capacitance	C	$V_R=0\text{V}, T_J=25^\circ\text{C}, f=1\text{MHz}$	470	560	pF
		$V_R=200\text{V}, T_J=25^\circ\text{C}, f=1\text{MHz}$	50	65	
		$V_R=650\text{V}, T_J=25^\circ\text{C}, f=1\text{MHz}$	35	45	
Thermal resistance	$R_{th(j-c)}$	Junction to case	-	2.0	$^\circ\text{C}/\text{W}$

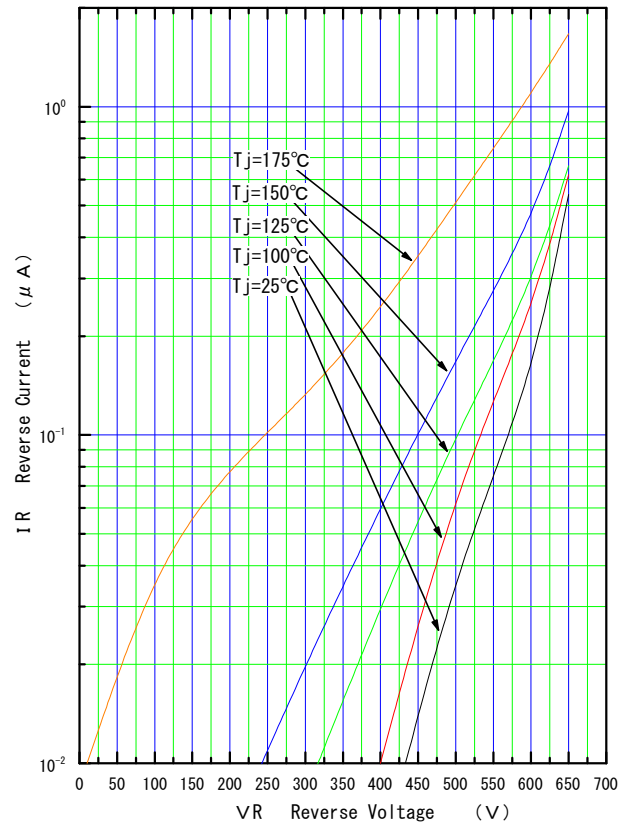
Mechanical characteristics

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

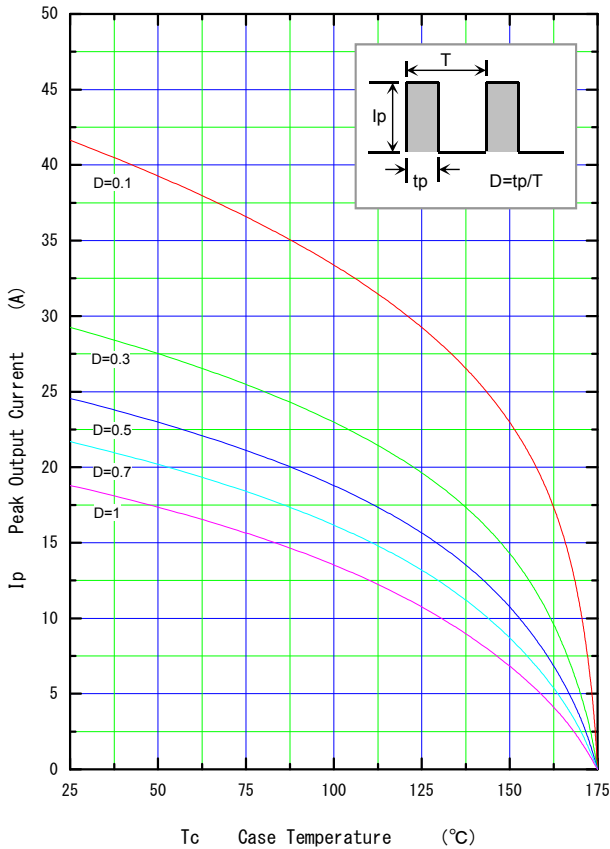
Forward Characteristic (typ.)



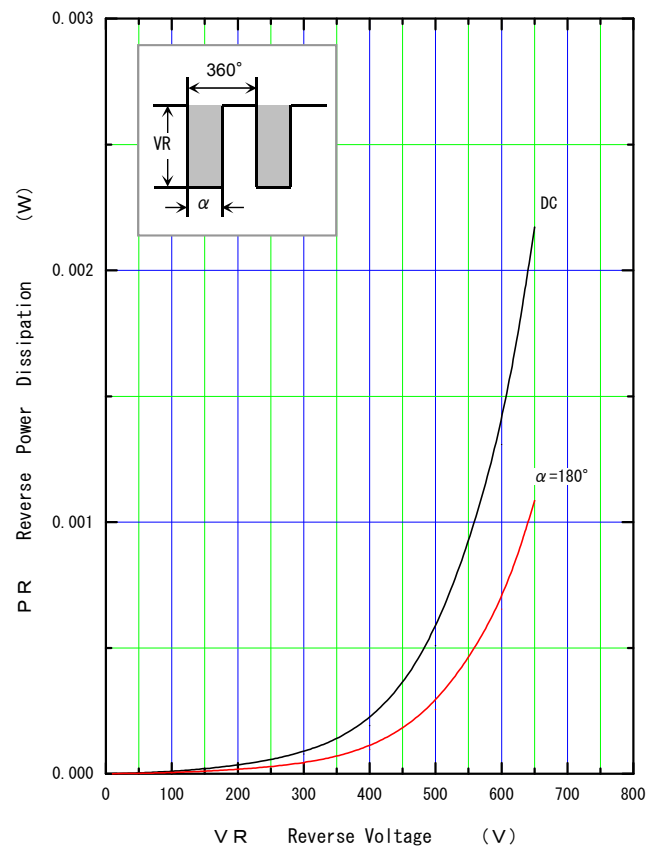
Reverse Characteristic (typ.)

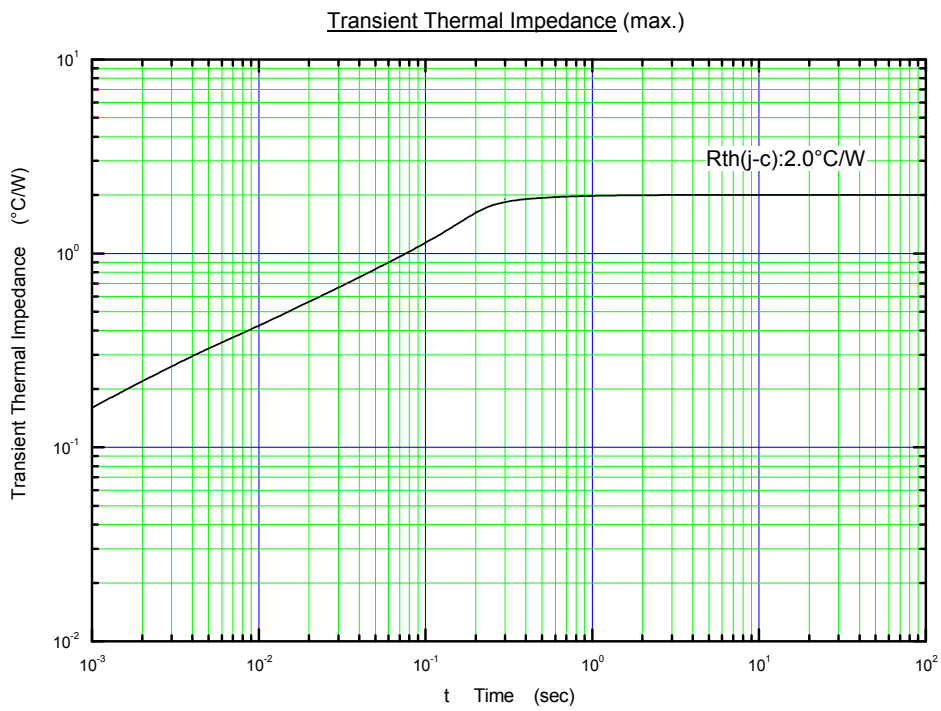
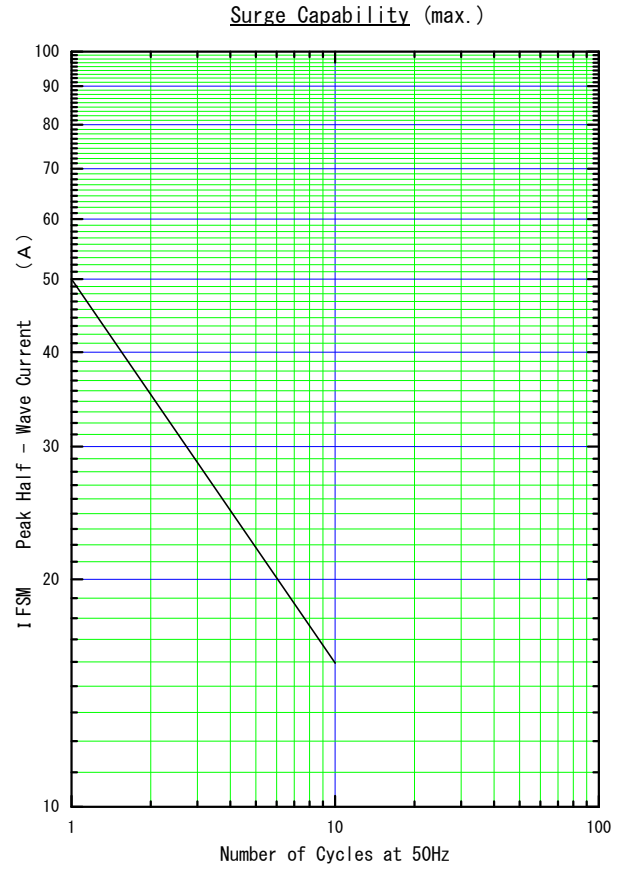
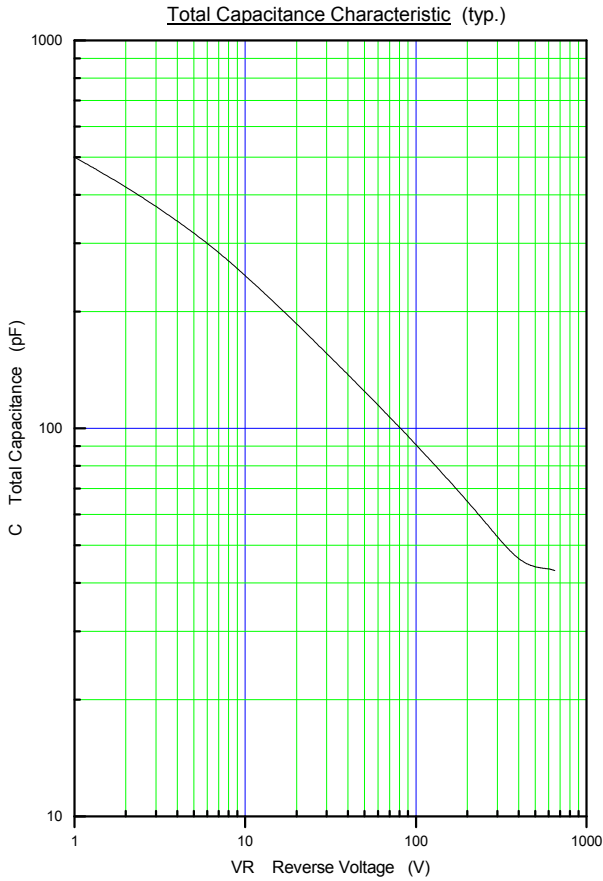


Current Derating (I_p-T_c) (max.)



Reverse Power Dissipation (max.)





WARNING

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 - Gas leakage detectors with an auto-shut-off feature
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