

# SiC Schottky Barrier Diode

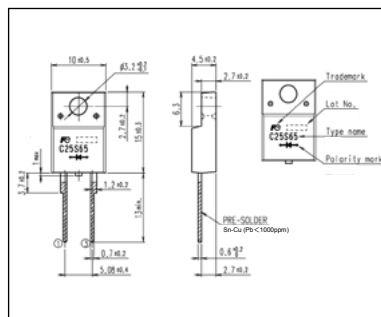
## ■ Features

- Ultra Low IR
- Low  $V_F$
- $T_j \text{ MAX} = 175^\circ\text{C}$
- High reliability at higher temperatures

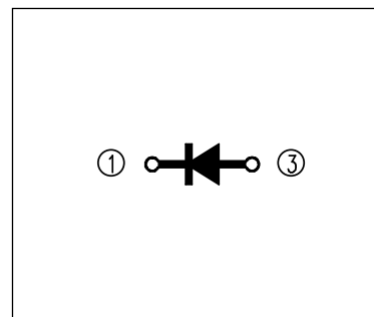
## ■ Applications

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

## ■ Outline Drawings [mm]



### ■ Connection diagram



### ■ Maximum Ratings and Characteristics

● Maximum ratings (at Ta=25°C Unless otherwise specified)

Item	Symbols	Conditions	Ratings	Units
Repetitive peak reverse voltage	$V_{RRM}$		650	V
Continuous forward current	$I_F$	D=1, $T_c < 65^{\circ}C$	25	A
Non-repetitive forward surge current	$I_{FSM}$	Sine wave, 10ms 1shot	100	A
Operating junction temperature	$T_j$		175	$^{\circ}C$
Storage temperature	$T_{stg}$		-55 to +150	$^{\circ}C$

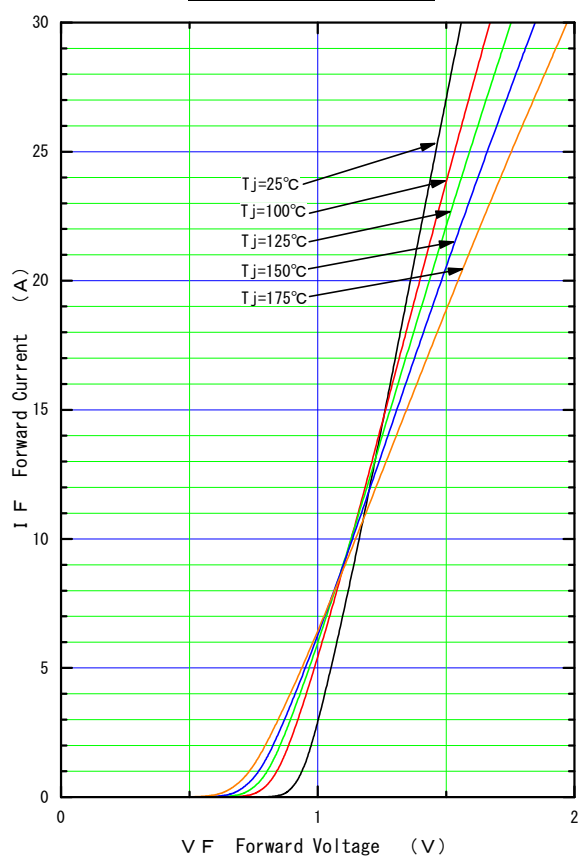
● **Electrical characteristics (at Ta=25°C Unless otherwise specified)**

Item	Symbols	Conditions	Min.	Max.	Units
Forward voltage	$V_F$	$I_F = 25A$	1.40	1.70	V
Reverse current	$I_R$	$V_R = V_{RRM}$	-	10	$\mu A$
Total Capacitive Charge	$Q_c$	$V_R = 170V, I_F = 10A,$ $di/dt = 100A/\mu s, T_J = 25^\circ C$	55	75	nC
Switching time	$T_c$		55	65	ns
Total Capacitance	C	$V_R = 0V, T_J = 25^\circ C, f = 1MHz$	1640	2050	pF
		$V_R = 200V, T_J = 25^\circ C, f = 1MHz$	170	220	
		$V_R = 650V, T_J = 25^\circ C, f = 1MHz$	115	130	
Thermal resistance	$R_{th(j-c)}$	Junction to case	-	2.2	$^\circ C/W$

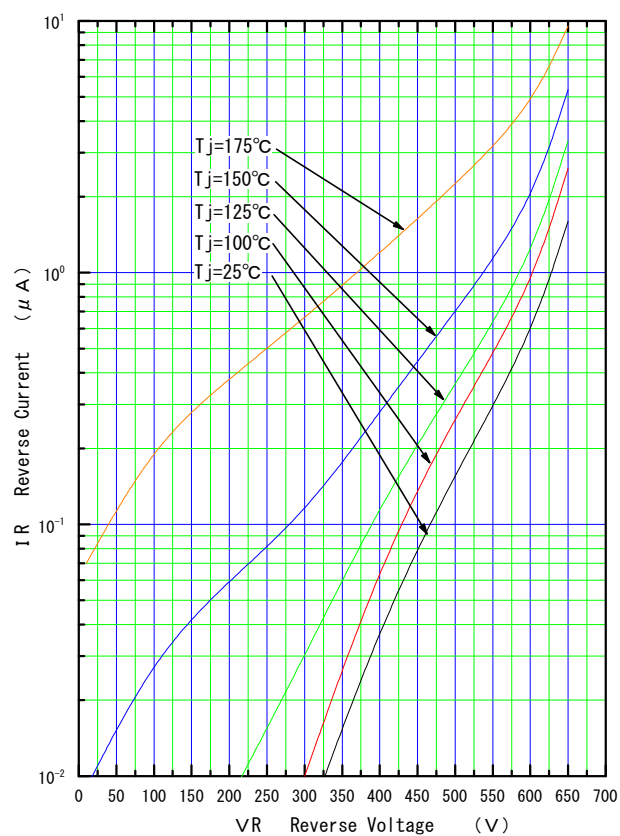
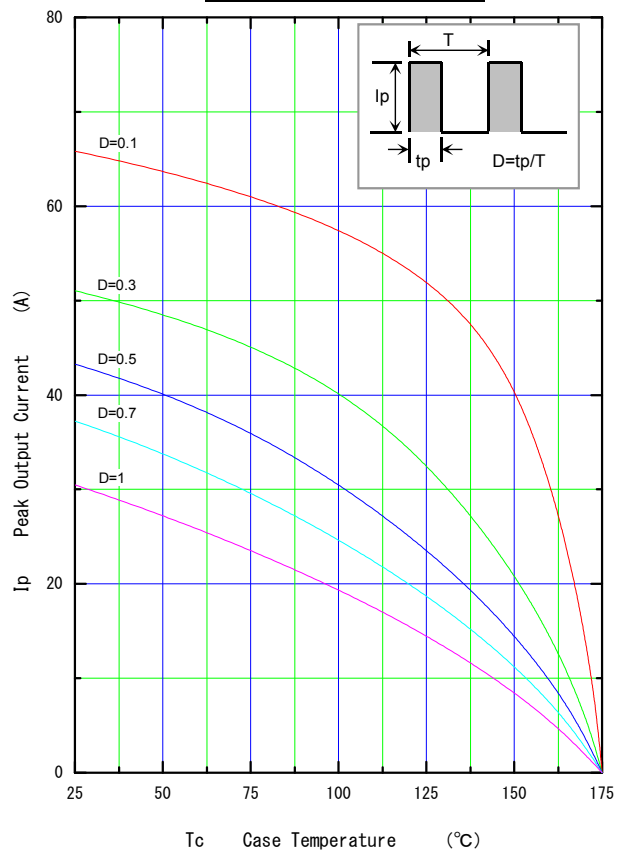
### ● Mechanical characteristics

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

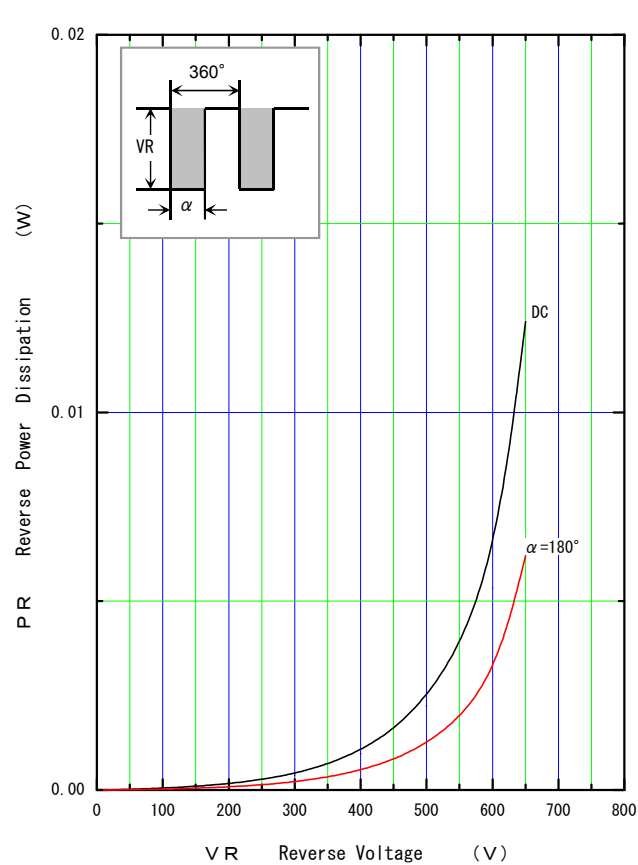
Forward Characteristic (typ.)



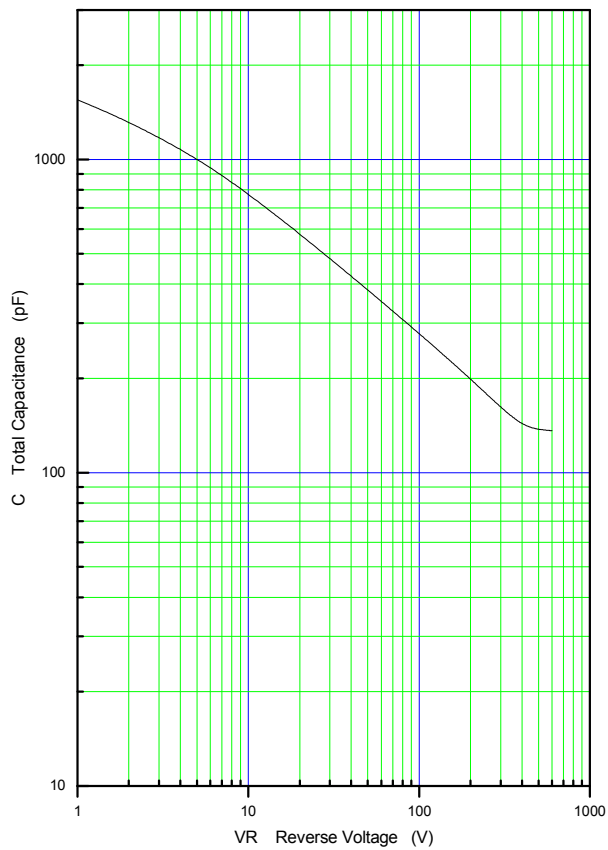
Reverse Characteristic (typ.)

Current Derating ( $I_p$ - $T_c$ ) (max.)

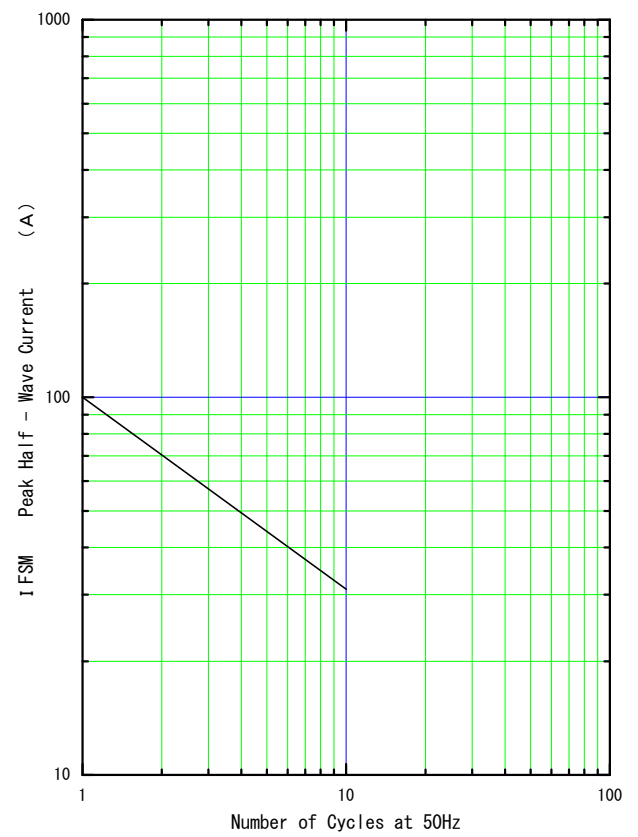
Reverse Power Dissipation (max.)



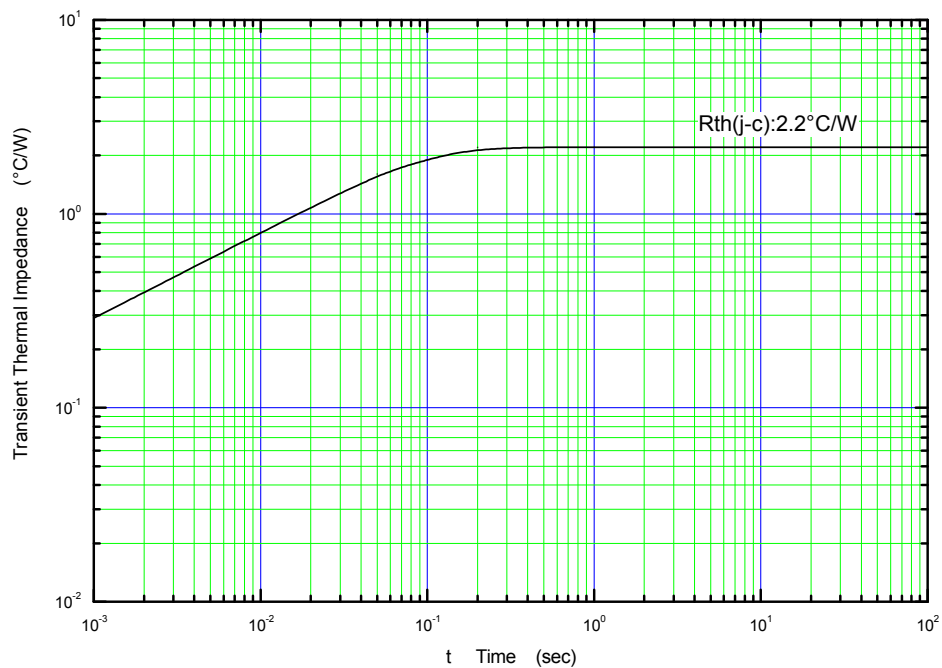
Total Capacitance Characteristic (typ.)



Surge Capability (max.)



Transient Thermal Impedance (max.)



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  - Machine tools
  - Audiovisual equipment
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  - Safety devices
  - Medical equipment
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