WS4A050065D

Silicon Carbide Schottky Diode

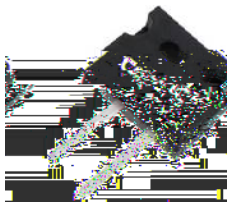
G4 MPS Technology

V_{RRM}	=	650	V
I_F (T_C 5)	=	58	A
Q_C	=	110	nC

Features

- New Thin Wafer Technology
- Low Forward Voltage Drop (V_F)
- Zero Reverse Recovery Current
- Zero Forward Recovery Voltage
- Positive Temperature Coefficient on V_F
- Temperature-independent Switching

Package



Benefits

- Replace Bipolar with Unipolar Device
- Reduction of Heat Sink Size
- Parallel Devices Without Thermal Runaway
- Essentially No Switching Losses

Applications

- Switch Mode Power Supplies
- Uninterruptible Power Supplies
- Motor drive, PV Inverter, Wind Power Station

Part Number	Package	Marking
WS4A050065D	TO-247-2	WS4A050065D

Maximum Ratings

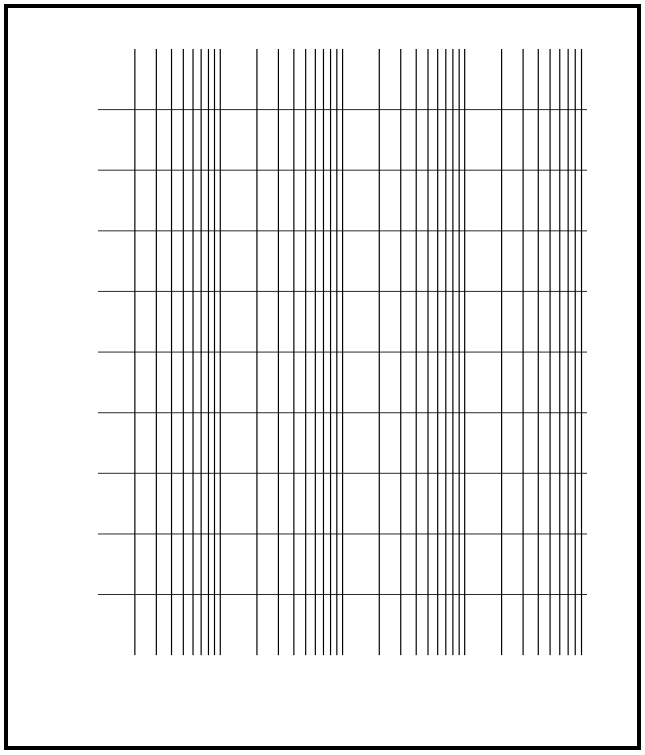
Symbol	Parameter	Value	Unit	Test Conditions	Note

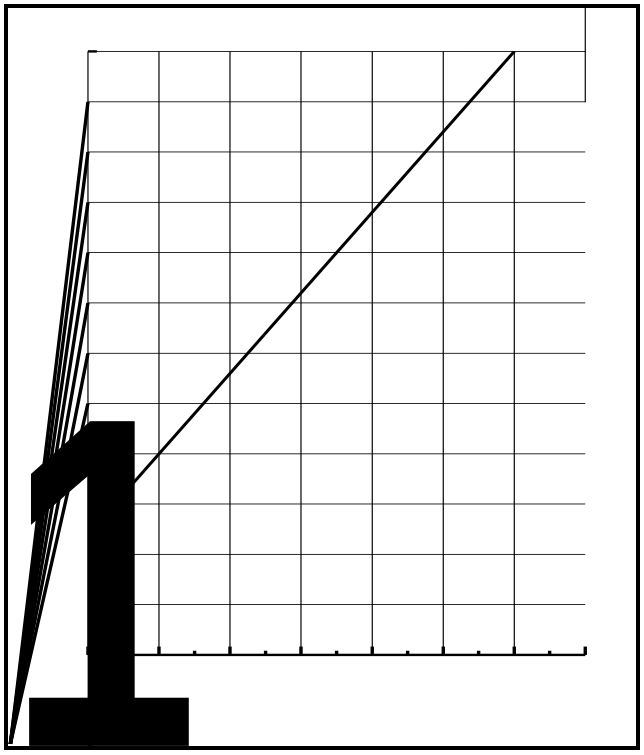
Electrical Characteristics

Thermal Characteristics

Symbol	Parameter

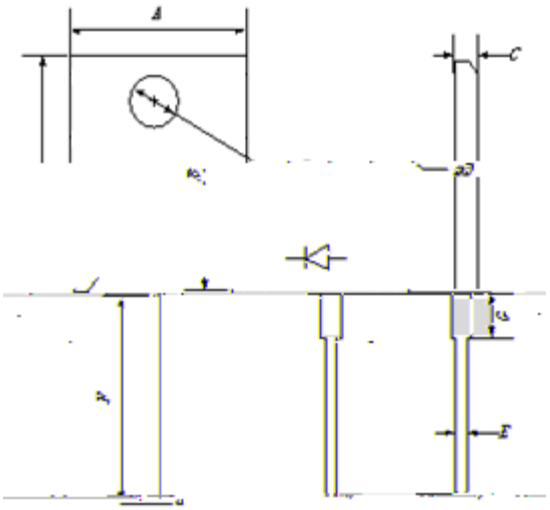
Typical Performance

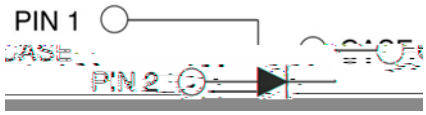




Package Dimensions

Package TO-247-2





Symbol	Min. (mm)	Typ. (mm)	Max. (mm)
A			
B			
C			
D			
E			
F			
G			

Simplified Diode Model

Equivalent IV Curve for Model



Mathematical Equation

$$V_F = V_t + I_F \times R_{diff}$$

$V_t = -0.001 \times T_j + 0.99$ [V]

$R_{diff} = 2.47 \times 10^{-7} \times T_j^2 + 1.54 \times 10^{-5} \times T_j + 0.01$

Note:

Tj = Diode Junction Temperature In Degrees Celsius, valid from 25°C to 175°C

I_F= Forward Current

Less than 60A

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