

Silicon Carbide Schottky Barrier Diode

VRRM	650 V	IF	2 x 10 A
V _{F(Typ.)}	1.5 V	Qc	24 nC

Features

- Temperature Independent Switching Behavior
- High Surge Current Capability
- Low Conduction Loss
- Zero Reverse Recovery
- High junction temperature 175 °C
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

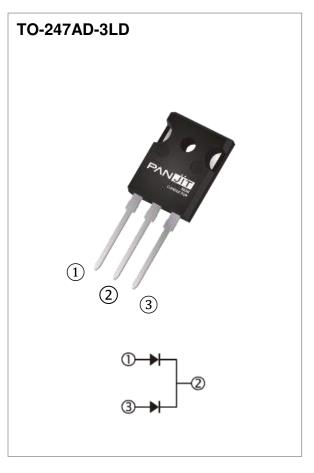
• Case: TO-247AD-3LD molded plastic

• Terminals: Solderable per MIL-STD-750, Method 2026

• Approx. Weight: 0.2198 ounces, 6.231 grams

Application

• PFC, UPS, PV Inverter, EV Charging Station, Welder



Maximum Ratings and Thermal Characteristics (Tc = 25 °C unless otherwise specified)

PARAMETER	SYMBOL	LIMIT	UNITS	
Repetitive Peak Reverse Voltage		V_{RRM}	650	٧
DC Blocking Voltage		V _{DC}	650	٧
Continuous Forward Current (Per Leg/Device)	T _C = 145 °C	lF	10 / 20	А
Repetitive Peak Surge Current Half Sine Wave, D=0.1 (Per Leg)	T_{C} = 25 °C , t_{p} =10ms T_{C} =125 °C , t_{p} =10ms	IFRM	44 40	А
Peak Forward Surge Current Half Sine Wave (Per Leg)	$T_{C}= 25 ^{\circ}\text{C}$, $t_{p} = 10 \text{ms}$ $T_{C}=125 ^{\circ}\text{C}$, $t_{p} = 10 \text{ms}$		48 44	Α
Peak Forward Surge Current $t_p = 10us$, Pulse (Per Leg)	I _{FSM}	640	А	
Maximum Power Dissipation (Per Leg)	P _{total}	98	W	
Operating Junction Temperature Range	TJ	-55~175	°C	
Storage Temperature Range	T _{STG}	-55~175	°C	





Electrical Characteristics (Per Leg) (T_C = 25 °C unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
- IVIII - B	VF	I _F = 10 A, T _J = 25 °C	-	1.5	1.7	V
Forward Voltage Drop		I _F = 10 A, T _J = 175 °C	-	1.8	-	
Reverse Leakage Current	I _R	V _R = 650 V, T _J = 25 °C	-	1.6	70	μA
		V _R = 650 V, T _J = 175 °C	-	0.018	-	mA
Total Capacitive Charge	Qc	I _F = 10 A, V _R = 400V	-	24	1	nC
Total Capacitance	С	V _R = 1V, f = 1MHz	-	379	ı	pF
		V _R = 200V, f = 1MHz	-	45	ı	pF
		V _R = 400V, f = 1MHz	-	33	1	pF
Capacitance Stored Energy	Ec	V _R = 400V	-	3.8	-	μJ
Thermal Resistance	Rejc		-	1.53	ı	°C/W





TYPICAL CHARACTERISTIC CURVES (Per Leg)

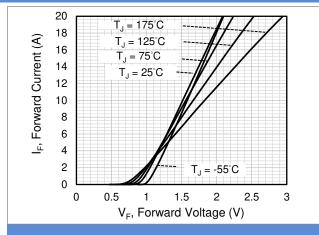


Fig.1 Forward Characteristics

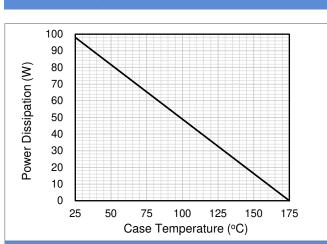
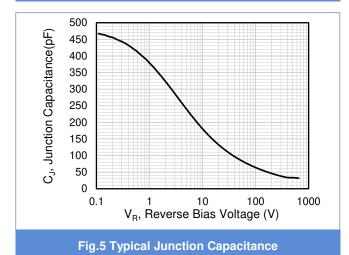


Fig.3 Power Derating Curve



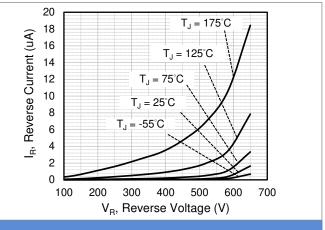


Fig.2 Reverse Characteristics

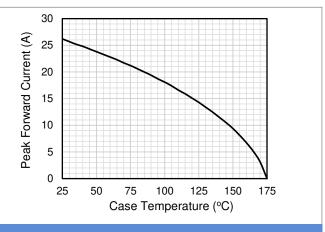
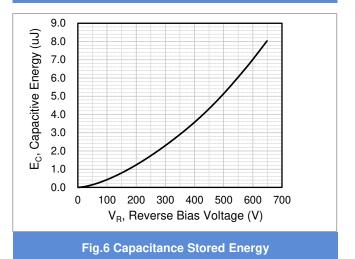


Fig.4 Current Derating Curve

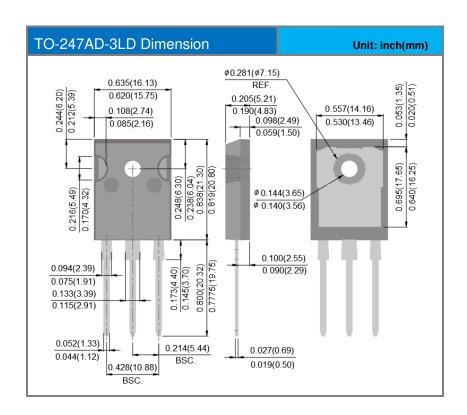




Product and Packing Information

Part No.	Package Type	Packing Type	Marking
PCDH2065CCG1	TO-247AD-3LD	30pcs / Tube	CDH2065CCG1

Packaging Information



February 22,2022 PCDH2065CCG1-REV.00 Page 4





Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are
 responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no
 representation or warranty that such applications will be suitable for the specified use without further testing
 or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.