

Silicon Carbide Schottky Barrier Diode

VRRM	650 V	l _F	8 A
V _{F(Typ.)}	1.5 V	Qc	15.7 nC

Features

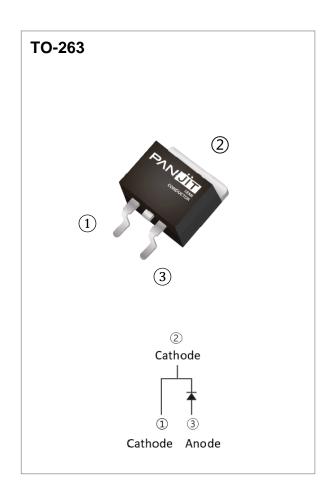
- Temperature Independent Switching Behavior
- High Surge Current Capability
- Positive Temperature Coefficient on V_F
- Low Conduction Loss
- Zero Reverse Recovery
- High junction temperature 175 °C
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case: TO-263 molded plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0487 ounces, 1.38 grams

Application

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



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

PARAMETE	SYMBOL	LIMIT	UNITS		
Repetitive Peak Reverse Voltage		V _{RRM}	650	V	
DC Blocking Voltage		V _{DC}	650	V	
Continuous Forward Current	T _C = 145 °C	l _F	8	А	
Repetitive Peak Surge Current	$T_{C}= 25 {}^{\circ}\text{C}$, $t_{p}=10 \text{ms}$		32	А	
Half Sine Wave, D=0.1	$T_C=125^{\circ}C$, $t_P=10ms$	IFRM	24		
Peak Forward Surge Current	$T_C= 25 ^{\circ}\text{C}$, $t_p = 10 \text{ms}$		36	А	
Half Sine Wave	$T_C=125^{\circ}C$, $t_p=10ms$		32		
Peak Forward Surge Current	IFSM	100	А		
$t_p = 10$ us, Pulse		480			
Maximum Power Dissipation	P _{total}	78.5	W		
Operating Junction Temperature Ra	TJ	-55~175	°C		
Storage Temperature Range	T _{STG}	-55~175	°C		

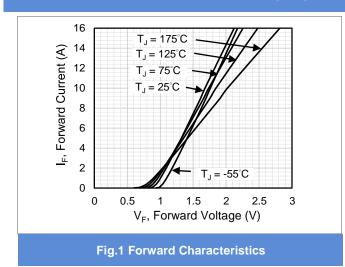


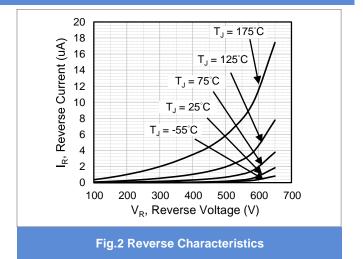
Electrical Characteristics (T_C = 25 °C unless otherwise specified)

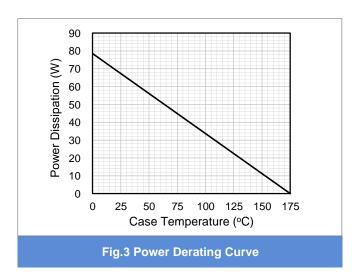
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
5 W 15 D	.,	I _F = 8 A, T _J = 25 °C	-	1.5	1.7	
Forward Voltage Drop	VF	I _F = 8 A, T _J = 175 °C	-	1.8	-	V
Reverse Leakage Current	I _R	V _R = 650 V, T _J = 25 °C	-	3	60	μA
		V _R = 650 V, T _J = 175 °C	-	0.03	-	mA
Total Capacitive Charge	Qc	I _F = 8 A, V _R = 400V	-	15.7	-	nC
Total Capacitance	O	V _R = 1V, f = 1MHz	ı	296	ı	pF
		V _R = 200V, f = 1MHz	ı	27.2	ı	pF
		V _R = 400V, f = 1MHz	-	19.1	-	pF
Capacitance Stored Energy	Ec	V _R = 400V	-	2.3	-	μJ
Thermal Resistance	Rejc		-	1.91	-	°C/W

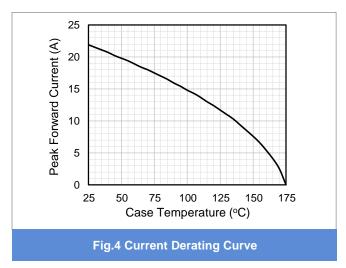


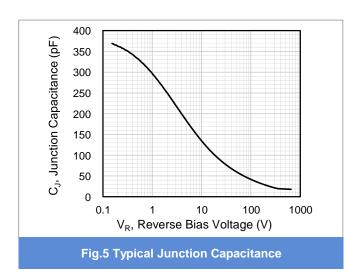
TYPICAL CHARACTERISTIC CURVES

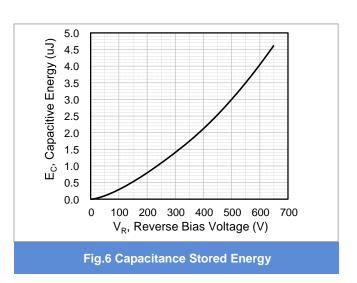










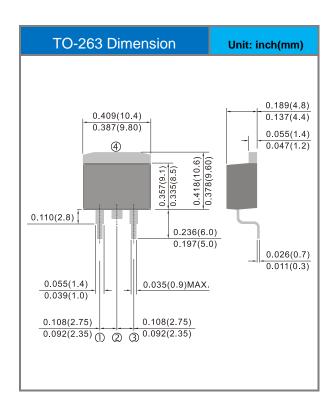


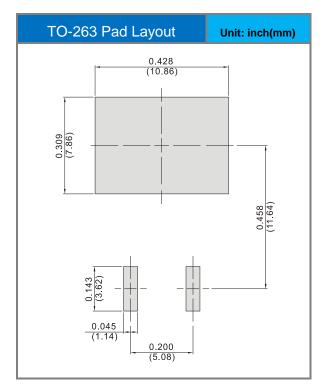


Product and Packing Information

Part No.	Package Type	Packing Type	Marking
PCDB0865G1	TO-263	50pcs / Tube	
PCDB0603G1	10-203	800pcs / Reel	CDB0865G1

Packaging Information & Mounting Pad Layout







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