

Speedy Diode - Short Reverse Recovery Time, Fast Recovery Diode

VRRM	600 V	I _F	8 A
V _{F(TYP)}	1.8 V	T _{RR(TYP)}	35 ns

Features

- Fast recovery
- Suppressed switching loss with low TRR
- Soft recovery characteristic for better EMI
- High junction temperature 150 °C
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

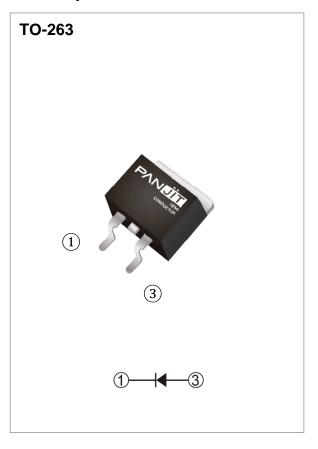
• Case: TO-263 package

• 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 (T_C = 25 °C unless otherwise specified)

PARAMETER	SYMBOL	LIMIT	UNITS
Repetitive Peak Reverse Voltage	V _{RRM}	600	V
DC Blocking Voltage	V _{DC}	600	V
Diode Forward Current @ Tc=130 °C	I _{F(AV)}	8	А
Repetitive Peak Surge Current tp = 8.3 ms, sine-wave, D=0.5	I _{FRM}	16	А
Peak Forward Surge Current tp = 8.3 ms, single half sine-wave	IFSM	75	А
Maximum Power Dissipation	P _{total}	69	W
Operating Junction Temperature Range	TJ	-55~150	°C
Storage Temperature Range	T _{STG}	-55~150	°C



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

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
	V _F	I _F = 8 A, T _J = 25 °C	-	1.8	2.3	V
Forward voltage drop		I _F = 8 A, T _J = 125 °C	ı	1.45	-	
Davida la la la la coment	I _R	V _R = 600 V, T _J = 25 °C	ı	ı	100	μA
Reverse leakage current		V _R = 600 V, T _J = 125 °C	-	-	500	μA
	T_RR	I _F =0.5A, I _R =1A, I _{RR} =0.25A T _J = 25 °C	-	-	35	ns
Reverse recovery time		$I_F = 1 \text{ A}, V_R = 30 \text{ V},$ $di/dt = 300 \text{ A/}\mu\text{s},$ $T_J = 25 ^{\circ}\text{C}$	-	-	30	ns
Reverse recovery time	T _{RR}	I_{RRM} I _F = 8 A, V _R = 400 V, di/dt = 300 A/µs,	-	35	55	ns
Peak recovery current	I _{RRM}		1	3.1	-	Α
Reverse recovery charge	Q _{RR}		-	55	-	nC
Softness factor = tb / ta	S	T _J = 25 °C	-	1.45	-	
Reverse recovery time	T_RR	$I_F = 8 \text{ A}, V_R = 400 \text{ V},$ $di/dt = 300 \text{ A/}\mu\text{s},$ $T_J = 125 ^{\circ}\text{C}$	-	55	-	ns
Peak recovery current	I _{RRM}		-	5.6	-	Α
Reverse recovery charge	Q _{RR}		-	215	-	nC
Softness factor = tb / ta	S	TJ= 125°C	-	0.9	-	
Thermal Desigtance	Rejc		-	-	1.8	°C/W
Thermal Resistance	Rеја		-	-	62	°C/W



TYPICAL CHARACTERISTIC CURVES

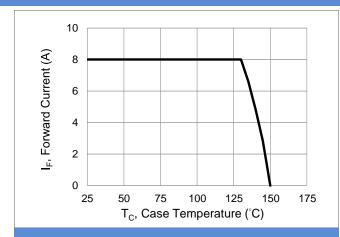


Fig.1 Forward Current Derating Curve

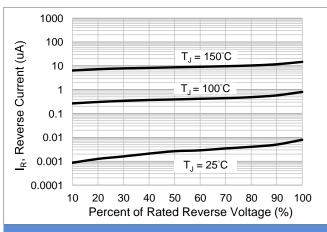


Fig.3 Typical Reverse Characteristics

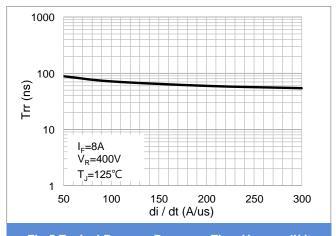


Fig.5 Typical Reverse Recovery Time Versus di/dt

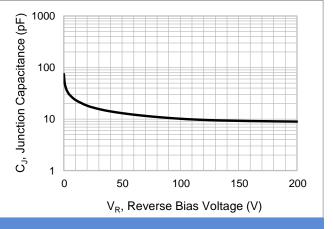


Fig.2 Typical Junction Capacitance

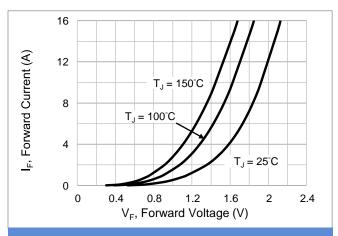


Fig.4 Typical Forward Characteristics

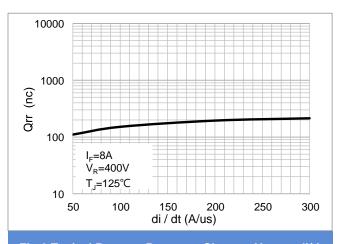


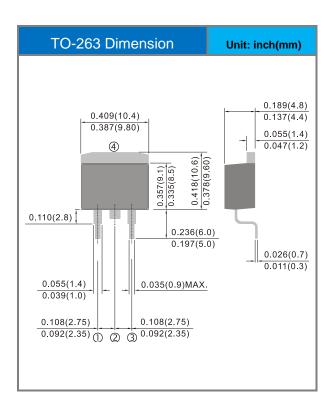
Fig.6 Typical Reverse Recovery Charges Versus di/dt

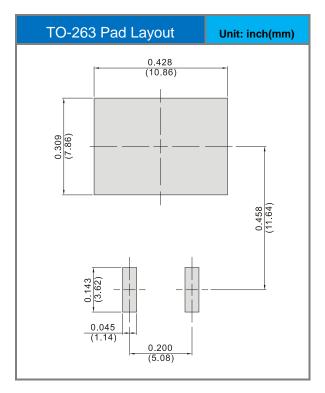


Product and Packing Information

Part No.	Package Type	Packing Type	Marking	
PSDB0860S1	TO-263	50pcs / Tube	SDB0860S1	
P3DB000031	10-203	800pcs / Reel	30000031	

Packaging Information & Mounting Pad Layout







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