

Speedy Diode - Short Reverse Recovery Time, Fast Recovery Diode

V _{RRM}	1200 V	l _F	30 A
V _{F(TYP)}	3.0 V	T _{RR(TYP)}	135 ns

Features

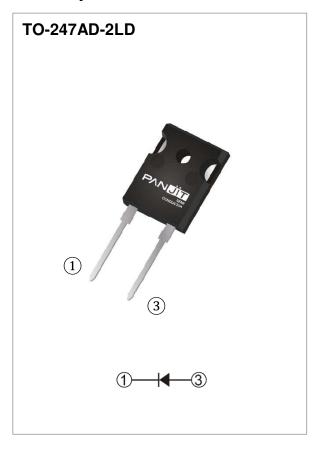
- Fast recovery
- Suppressed switching loss with low TRR
- Soft recovery characteristic for better EMI
- High junction temperature 150 °C
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case: TO-247AD-2LD molded plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.2136 ounces, 6.056 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}	1200	V
DC Blocking Voltage	V _{DC}	1200	V
Diode Forward Current @ Tc=95°C	I _{F(AV)}	30	Α
Repetitive Peak Surge Current	I _{FRM}	60	Α
tp = 8.3 ms, $sine-wave$, $D=0.5$	IFRM	00	A
Peak Forward Surge Current	l	190	Α
tp = 8.3 ms, single half sine-wave	I _{FSM}	190	A
Maximum Power Dissipation	P _{total}	139	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	
For and allowed as	V _F	I _F = 30 A, T _J = 25 °C	-	3.0	3.5	V	
Forward voltage drop		I _F = 30 A, T _J = 125 °C	-	2.2	-		
Doverno logicado gueront	IR	V _R = 1200 V, T _J = 25 °C	-	-	250	μA	
Reverse leakage current		V _R = 1200 V, T _J = 125 °C	-	-	1	mA	
	T _{RR}	I _F =0.5A, I _R =1A, I _{RR} =0.25A T _J = 25 °C	-	-	50	ns	
Reverse recovery time		$I_F = 1 \text{ A}, V_R = 30 \text{ V},$ $di/dt = 300 \text{ A/}\mu\text{s},$ $T_J = 25 ^{\circ}\text{C}$	-	-	40	ns	
Reverse recovery time	T _{RR}		-	135	200	ns	
Peak recovery current	I _{RRM}	$I_F = 30 \text{ A}, V_R = 400 \text{ V},$	-	5.2	-	Α	
Reverse recovery charge	Q _{RR}	di/dt = 300 A/μs,	-	360	-	nC	
Softness factor = tb / ta	S	T _J = 25 °C	-	3.4	ı		
Reverse recovery time	T _{RR}	I _F = 30 A, V _R = 400 V, di/dt = 300 A/μs,	-	200	ı	ns	
Peak recovery current	I _{RRM}		-	12	ı	Α	
Reverse recovery charge	Q _{RR}		-	1460	ı	nC	
Softness factor = tb / ta	S	T _J = 125 °C	-	2.05	-		
Thermal Resistance	R _θ JC		-	-	0.9	°C/W	



TYPICAL CHARACTERISTIC CURVES

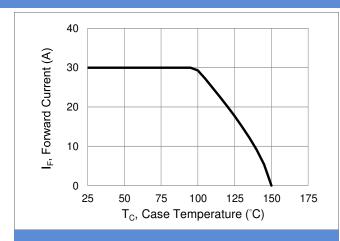


Fig.1 Forward Current Derating Curve

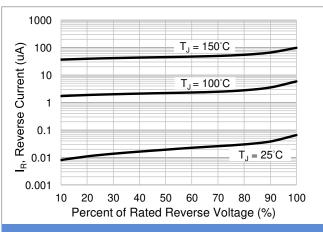


Fig.3 Typical Reverse Characteristics

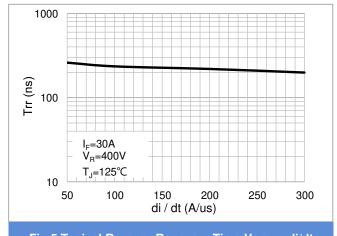


Fig.5 Typical Reverse Recovery Time Versus di/dt

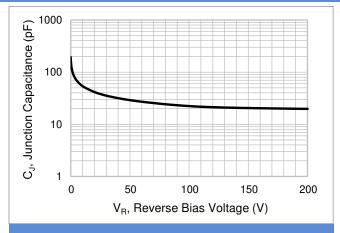


Fig.2 Typical Junction Capacitance

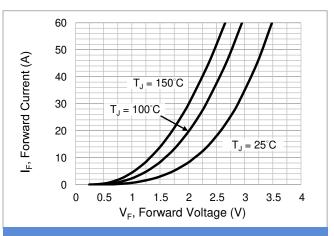


Fig.4 Typical Forward Characteristics

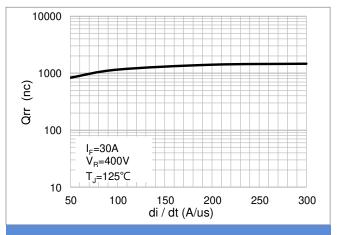


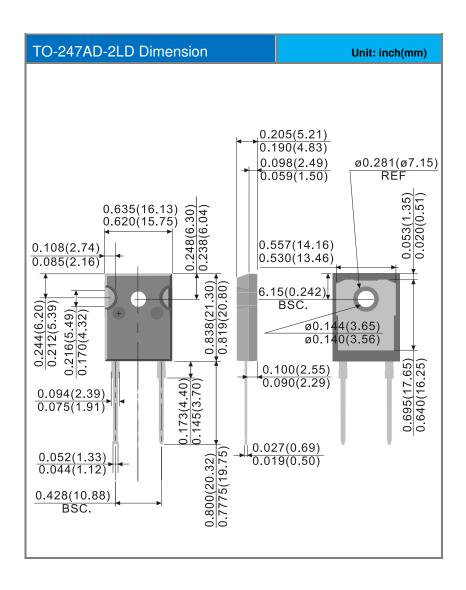
Fig.6 Typical Reverse Recovery Charges Versus di/dt



Product and Packing Information

Part No.	Package Type	Packing Type	Marking
PSDH30120S1	TO-247AD-2LD	30pcs / Tube	SDH30120S1

Packaging Information





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