

## Speedy Diode - Short Reverse Recovery Time, Fast Recovery Diode

VRRM	600 V	IF	60 A	TO-247AD-2LD
V <sub>F(TYP)</sub>	1.65 V	T <sub>RR(TYP)</sub>	55 ns	
Features				
<ul> <li>Fast recov</li> </ul>	ery			
<ul> <li>Suppressed switching loss with low T<sub>RR</sub></li> </ul>				
<ul> <li>Soft recovery characteristic for better EMI</li> </ul>				P. 1
<ul> <li>High juncti</li> </ul>	on temperature	150 °C	- Wetter	
Lead free in compliance with EU RoHS 2.0				and the second sec
<ul> <li>Green mol</li> </ul>	ding compound	l as per IEC 612	249 standard	
Mechanica	I Data			1
Case: TO-247AD-2LD molded plastic				3
• Terminals: Solderable per MIL-STD-750, Method 2026				
<ul> <li>Approx. W</li> </ul>	eight: 0.2136 o	unces, 6.056 gr	ams	
Application				①—— ◀——③

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

### Maximum Ratings and Thermal Characteristics (T<sub>c</sub> = 25 °C unless otherwise specified)

PARAMETER	SYMBOL	LIMIT	UNITS
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	600	V
DC Blocking Voltage	V <sub>DC</sub>	600	V
Diode Forward Current @ Tc=105°C	IF(AV)	60	А
Repetitive Peak Surge Current		100	۸
<i>tp = 8.3 ms, sine-wave, D=0.5</i>	IFRM	120	A
Peak Forward Surge Current		400	۸
tp = 8.3 ms, single half sine-wave	I <sub>FSM</sub>	400	A
Maximum Power Dissipation	Ptotal	250	W
Operating Junction Temperature Range	TJ	-55~150	°C
Storage Temperature Range	Tstg	-55~150	°C



# **Electrical Characteristics** ( $T_c = 25$ °C unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS	
Forward voltage drop		I <sub>F</sub> = 60 A, T <sub>J</sub> = 25 °C	-	1.65	2.3	V	
Forward voltage drop	VF	I <sub>F</sub> = 60 A, T <sub>J</sub> = 125 °C	-	1.45	-		
		$V_R = 600 V, T_J = 25 ^{\circ}C$	-	-	250	μA	
Reverse leakage current	IR	$V_R = 600 V, T_J = 125 ^{\circ}C$	-	-	1	mA	
		I <sub>F</sub> =0.5A, I <sub>R</sub> =1A,					
		I <sub>RR</sub> =0.25A	-	-	55	ns	
Povoroo rocovoru timo		T <sub>J</sub> = 25 °C					
Reverse recovery time	T <sub>RR</sub>	$I_F = 1 \ A, \ V_R = 30 \ V,$					
		di/dt = 300 A/µs,	-	-	40	ns	
		T <sub>J</sub> = 25 °C					
Reverse recovery time	T <sub>RR</sub>		-	55	85	ns	
Peak recovery current	IRRM	$I_F = 60 \text{ A}, V_R = 400 \text{ V},$	-	5.5	-	А	
Reverse recovery charge	Q <sub>RR</sub>	di/dt = 300 A/µs,	_	185	-	nC	
Softness factor = tb / ta	S	T <sub>J</sub> = 25 °C	-	1.75	-		
Reverse recovery time	T <sub>RR</sub>	I <sub>F</sub> = 60 A, V <sub>R</sub> = 400 V,	-	100	-	ns	
Peak recovery current			-	17.5	-	А	
Reverse recovery charge			-	980	-	nC	
Softness factor = tb / ta	S	T」= 125 °C	-	0.2	-		
Thermal Resistance	Rejc		-	-	0.5	°C/W	



# **PSDH6060S1**



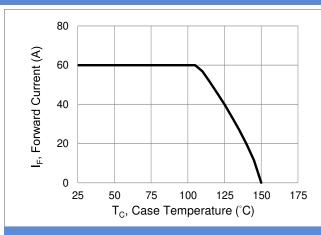


Fig.1 Forward Current Derating Curve

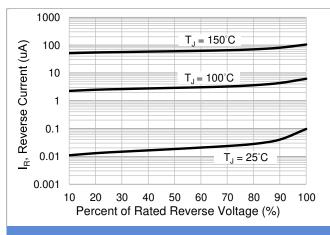
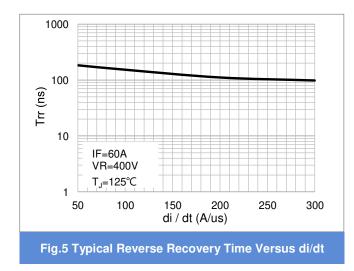


Fig.3 Typical Reverse Characteristics



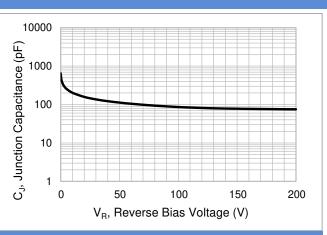
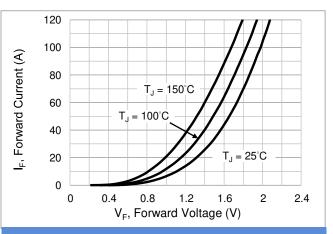
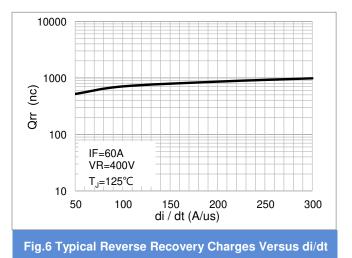


Fig.2 Typical Junction Capacitance



**Fig.4 Typical Forward Characteristics** 

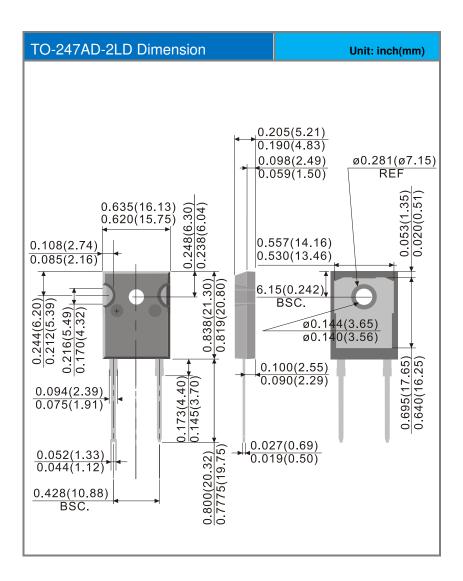




### **Product and Packing Information**

Part No.	Package Type	Packing Type	Marking	
PSDH6060S1	TO-247AD-2LD	30pcs / Tube	SDH6060S1	

#### Packaging Information





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