D4206S

THINKI
SEMICONDUCTOR ®

D4206S

Pb Free Plating Product

20Ampere,600Volt Insulated Fast Recovery Diode for Welding Machine
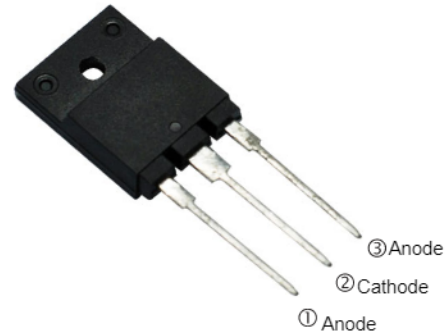
RoHS Pb

APPLICATION

• Freewheeling, Snubber, Clamp
• Inversion Welder
• PFC
• Plating Power Supply
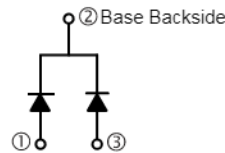• Ultrasonic Cleaner and Welder
• Converter & Chopper
• UPS

PRODUCT FEATURE

• Ultrafast Recovery Time
• Soft Recovery Characteristics
• Low Recovery Loss
• Low Forward Voltage
• High Surge Current Capability
• Low Leakage Current

TO-3PF/TO-3PML

③Anode
②Cathode
① Anode

Internal Configuration

②Base Backside

① ③

GENERAL DESCRIPTION

D4206S using the lastest FRED FAB process with ultra fast and soft recovery characteristic for welding machine.

ABSOLUTE MAXIMUM RATINGS

T_C =25°C unless otherwise specified

Symbol	Parameter/Test Conditions		Values	Unit
V_R	Maximum D.C. Reverse Voltage		610	V
V_{RRM}	Maximum Repetitive Reverse Voltage			
$I_{F(AV)}$	Average Forward Current	T_C=110°C, Per Diode	10	A
		T_C=110°C, Per Package	20	
$I_{F(RMS)}$	RMS Forward Current	T_C=110°C, Per Diode	14	
I_{FSM}	Non-Repetitive Surge Forward Current	T_J=45°C,t=10ms, 50Hz, Sine	100	
P_D	Power Dissipation		83	W
T_J	Junction Temperature		-55 to +150	°C
T_{STG}	Storage Temperature Range		-55 to +150	°C
Torque	Module-to-Sink	Recommended（M3）	1.1	N•m
$R_{th(J-C)}$	Junction-to-Case Thermal Resistance, Per Diode		1.5	°C /W
Weight			5.2	g

ELECTRICAL CHARACTERISTICS

T_C =25°C unless otherwise specified

Symbol	Parameter/Test Conditions		Min.	Typ.	Max.	Unit
I_{RM}	Maximum Reverse Leakage Current	V_R =220V			10	µA
		V_R =220V, T_J = 125°C			10	mA
V_F	Forward Voltage	I_F=10A		1.1	1.4	V
		I_F=10A,T_J=125°C		1.0	1.1	
trr	Reverse Recovery Time (I_F = 1A, di_F/dt = -200A/µs, V_R = 30V)			17		ns
trr	Reverse Recovery Time	I_F =10A,V_R =300V,		32		ns
I_{RRM}	Maximum Reverse Recovery Current	di_F/dt = -200A/µs		2.1		A
trr	Reverse Recovery Time	I_F = 10A,V_R =300V,		45		ns
I_{RRM}	Maximum Reverse Recovery Current	di_F/dt = -200A/µs ,T_J=125°C		5		A

http://www.thinkisemi.com/