

ProAsia Semiconductor Corporation

1700V/25A Silicon Carbide Schottky Diode

Preliminary

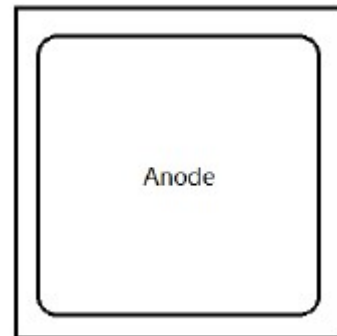
Features

- Zero or negligible reverse recovery
- Low forward voltage
- Positive temperature coefficient
- Extended surge current capability
- High junction temperature
- Temperature invariant switching behavior

V_{RRM}	1700V
I_F	25A
Q_c	200nC

Applications

- Solar inverters
- Motor drivers
- Power Factor Correction
- SMPS



Electrical Specifications

$T_C=25^{\circ}\text{C}$, unless otherwise specified.

Symbol	Parameter	Test Condition	Min	Typ	Max	Unit
V_R	Reverse Blocking Voltage	$I_R=250\mu\text{A}$	1700			V
I_R	Reverse Current	$V_R=1700\text{V}$ $T_J=25^{\circ}\text{C}$ $T_J=175^{\circ}\text{C}$		5 60	100 200	μA
V_F	Forward Voltage	$I_F=25\text{A}$ $T_J=25^{\circ}\text{C}$ $T_J=175^{\circ}\text{C}$		1.6 2.5	1.9 2.9	V

Note: All characteristics are tested with the parts assembled in To-247-2L package.

Absolute Maximum Ratings

$T_C=25^{\circ}\text{C}$, unless otherwise specified.

Symbol	Parameter	Rating
V_{RRM}	Repetitive Peak Reverse Voltage	1700V
I_F	Continuous Forward Current	25A
I_{FSM}	Non-Repetitive Forward Surge Current, $t_p=10\text{ms}$	100A
I_{FRM}	Repetitive Forward Surge Current, $t_p=10\text{ms}$	75A

These are stress ratings only and functional operation is not implied. Exposure to absolute maximum ratings for prolonged time periods may affect device reliability.

Mechanical Parameters

Parameter	Typical Value	Unit
Wafer Size	150	mm
Die Thickness	175	μm
Top Metallization (Al)	4.2	μm
Back Metallization (Ti/Ni/Ag)	1.4	μm
Frontside Passivation	Polyimide	
Cut line	100	μm