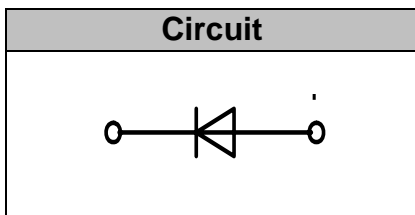




A=Anode C=Cathode



Rectifier Diode

Reverse Voltage: 800 to 1600V
Forward Current: 45A

Features:

- Glass passivated chips
- Low Leakage Current
- Low Forward Voltage
- RoHS Compliance
- Input rectification

Applications

- Supplies for DC power equipment
- DC supply for PWM inverter
- Field supply for DC motors
- Battery DC power supplies

Module Type

TYPE	VRRM	VRSM
DSI45-08	800V	900V
DSI45-12	1200V	1300V
DSI45-16	1600V	1700V

Maximum Ratings

Symbol	Item	Conditions	Values	Units
I _{F(AV)}	Average forward current	T _c =100°C	45	A
I _{FSM}	Forward surge current, max.	t=10mS T _{vj} =45°C	500	A
i ² t	Value for fusing		1250	A ² s
Visol	Isolation Breakdown Voltage(R.M.S)	a.c.50HZ;r.m.s.;1min	2500	V
T _{vj}	Operating Junction Temperature		-40 to +150	°C
T _{stg}	Storage Temperature		-40 to +150	°C
M _d	Mounting torque		0.8...1.2	Nm
Weight	Approximate Weight		6	g

Thermal Characteristics

Symbol	Item	Conditions	Values	Units
R _{th(j-c)}	Thermal Impedance, max.	Junction to Case	0.65	°C/W
R _{th(c-s)}	Thermal Impedance, max.	Case to Heatsink	0.20	°C/W

Electrical Characteristics

Symbol	Item	Conditions	Values			Units
			Min.	Typ.	Max.	
V _{FM}	Forward Voltage Drop, max.	T=25°C I _F =45A T=150°C I _F =45A	—	1.1	1.28 1.20	V
r _F	Slope resistance for power loss calculation only	T _j =150°C		7.7		mΩ
V _{FO}	Threshold voltage for power loss calculation only	T _j =150°C		0.76		V
I _{RRM}	Repetitive Peak Reverse Current, max.	T _{vj} =25°C V _{RD} =V _{RRM}	—	—	5	μA
		T _{vj} =150°C V _{RD} =V _{RRM}	—	—	3	mA

Performance Curves

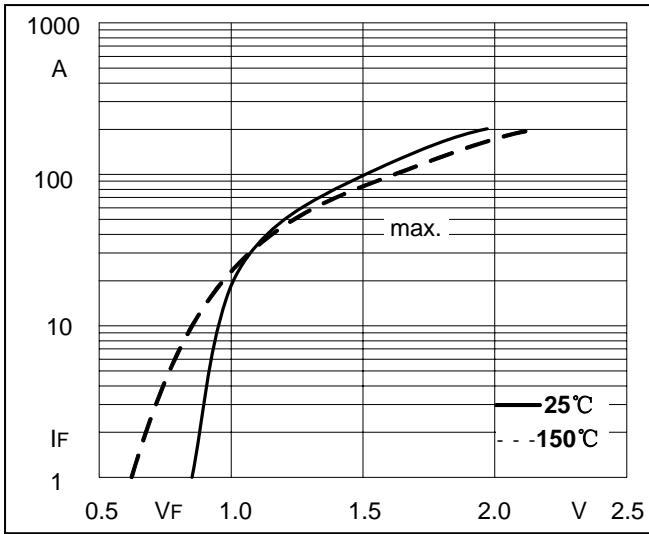


Fig1. Forward Characteristics

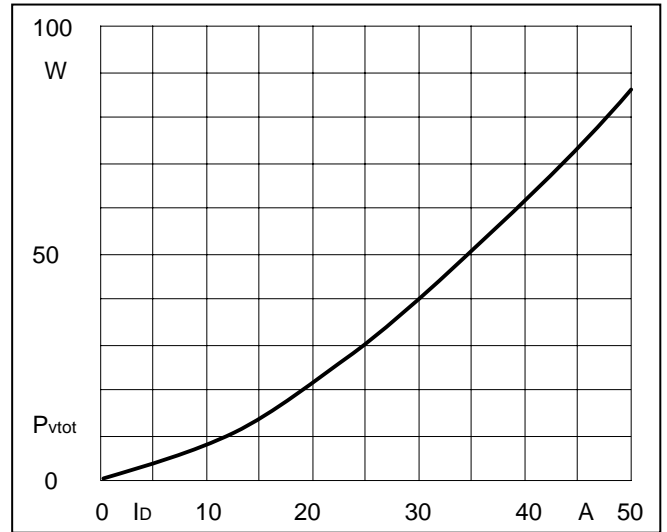


Fig2. Power dissipation

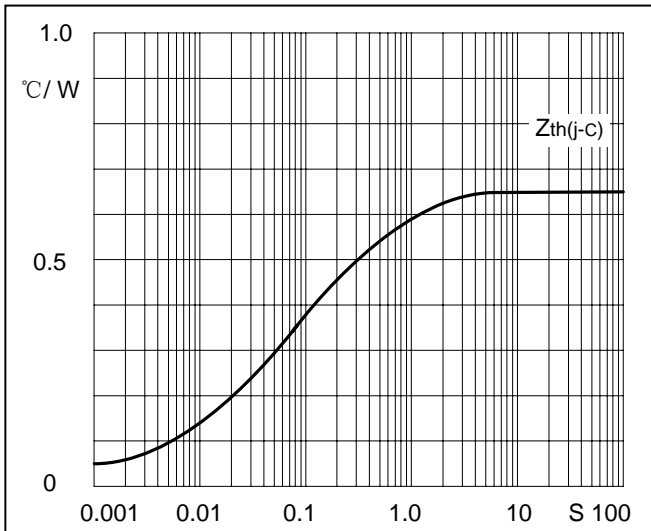


Fig3. Transient thermal impedance

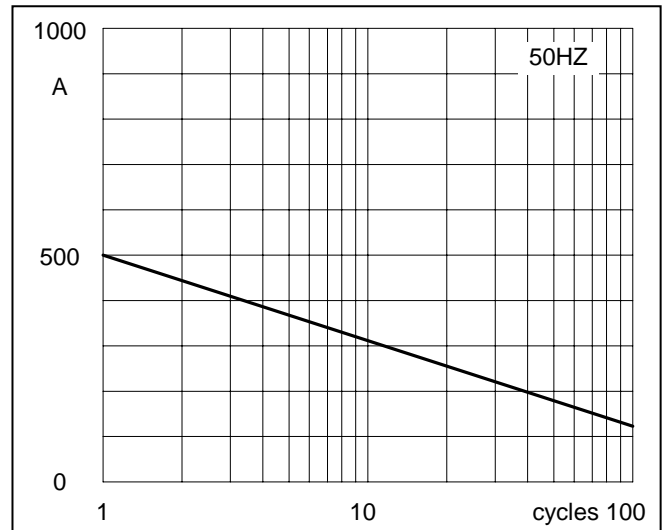


Fig4. Max Non-Repetitive Forward Surge Current

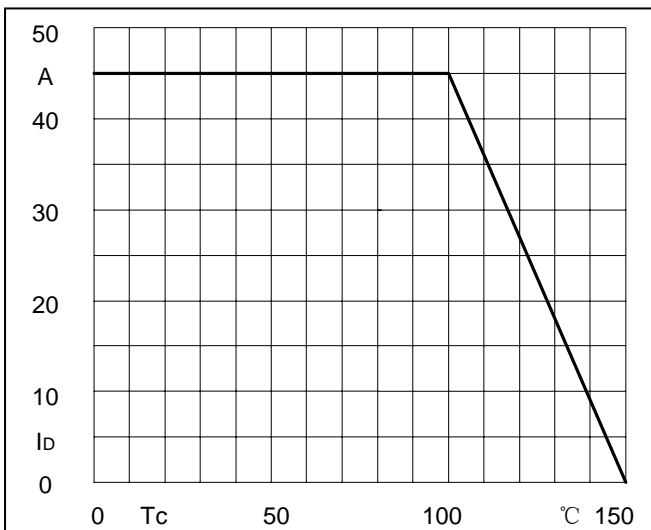


Fig5. Forward Current Derating Curve

Package Outline Information

