SEMIPOWEREX®

SPD100CC(CA)40SH

Fast Recovery Diode
100A 400V

preliminary data

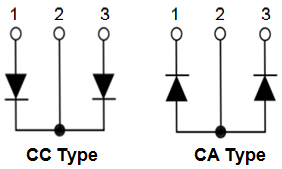
Features

- ✓ Repetitive Reverse Voltage : V_{RRM} = 400V
- ✓ Forward Voltage : V_F(typ.)=1.2V
- ✓ Average Forward Current : $I_{F(AV)}$ =100A @T_C=25℃
- ✓ Industrial Standard Package with isolated copper base plate
- ✓ High Surge Capability

Application

- ✓ DC motor control and Drives
- ✓ Battery Charger
- ✓ High Speed & High Power Converters
- ✓ Various Switching Power Supply
- ✓ Welder

Package : SH



Absolute Maximum Ratings (T_C=25℃, unless otherwise noted.)

Symbol	Parameter	Conditions		Ratings	Units
V_{RRM}	peak repetitive reverse voltage	-		400	V
V_R	D.C. reverse voltage	-		320	V
$I_{F(AV)}$	max. average forward current	T_C=25℃		200	A
		T_C=100℃		100	
I_{FSM}	non-repetitive forw. surge current	10 ms, sin 180°	T_C=25℃	1400	A
i^2t	max. i^2t for fusing	T_j=150℃, 10 ms, sin 180°		8150	A^2s
P_D	total power dissipation	T_C=25℃		530	W
		T_C=100℃		210	W
T_j	operating junction temperature	-		-40 ~ 150	℃
T_{stg}	storage temperature range	-		-40 ~ 125	℃
V_{ISOL}	Isolation test voltage	RMS, f=50Hz, t=1 minutes		2,500	V
Weight	module			120	g
-	terminal mounting torque (M5)	typical		3.0	N.m

Electrical Characteristics (T_C=25℃, unless otherwise noted.)

Symbol	Parameter	min.	typ.	max.	Units	Conditions
BV_R	cathode-anode breakdown voltage	400	-	-	V	I_{RM} = 240uA
V_F	forward voltage	-	1.2	1.5	V	T_C=25℃, I_F = 100A
		-	1.0	-	V	T_C=100℃, I_F = 100A
I_{RM}	reverse leakage current	-		240	uA	V_R = 400V
t_{rr}	reverse recovery time	-	150	200	ns	I_F = 100A, V=200V, di/dt = 500/us
$R_{th(j-c)}$	Thermal Resistance	-	-	0.235	℃/W	junction-to-case
$R_{th(C-S)}$	Thermal Greese	-	0.05	-	℃/W	case to heat-sink

Performance Curves

Fig. 1 Forward voltage drop versus forward current

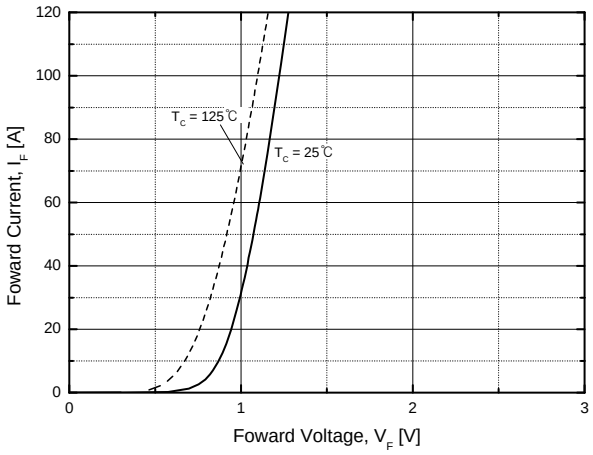
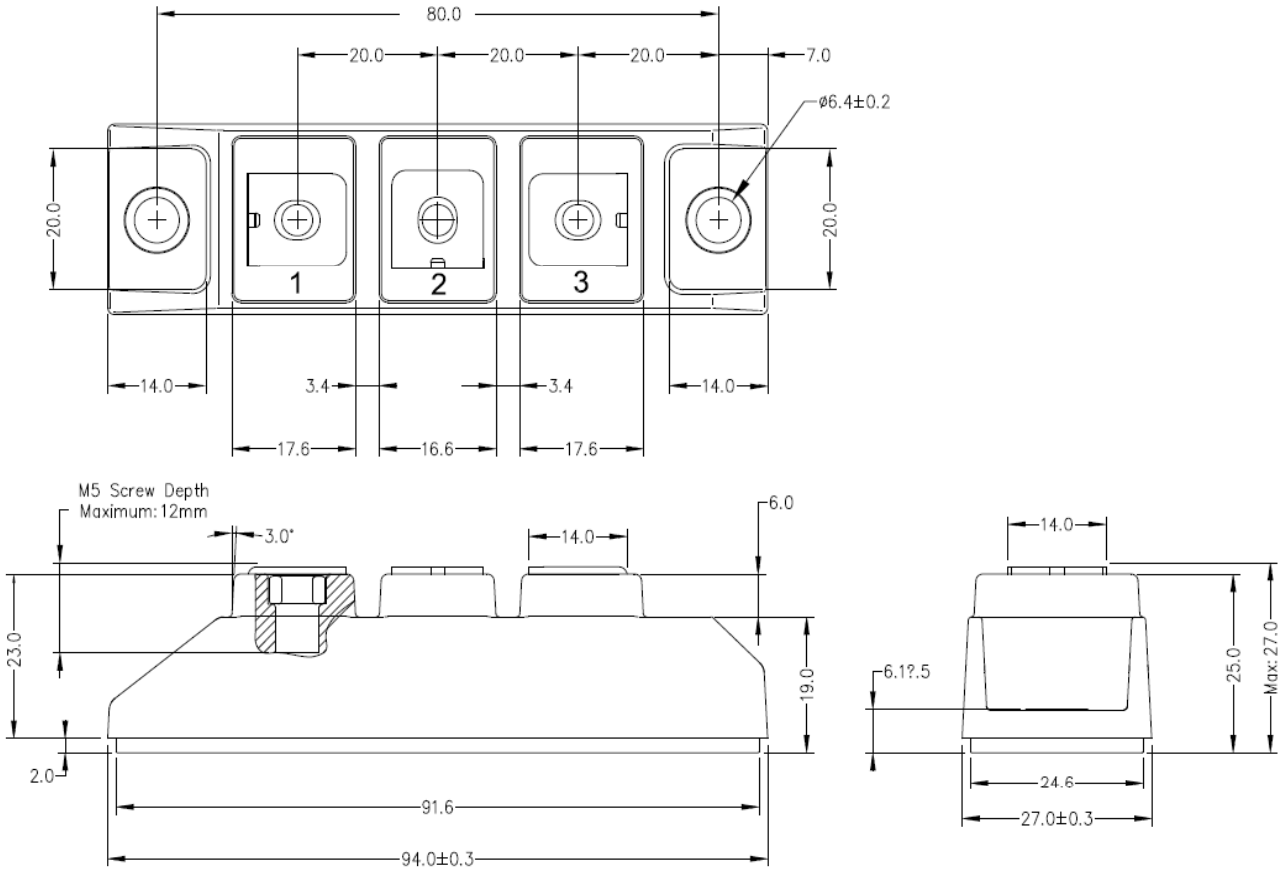


Fig.2 Typical Reverse Recovery Time

Fig3. Transient Thermal Impedance

Fig4. Forward Current Derating Curve

Package Outline (Dimension in mm)



* Technical information on this specification subject to change without any notice.