

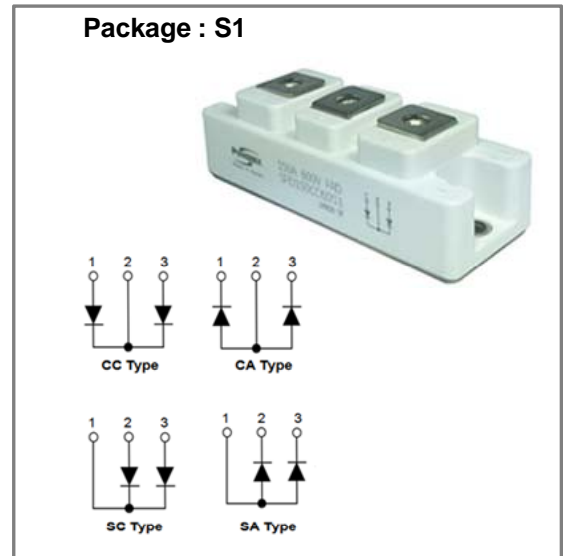
Features

- ✓ Repetitive Reverse Voltage : $V_{RRM} = 600V$
- ✓ Forward Voltage : $V_F(\text{typ.})=1.23V$
- ✓ Average Forward Current : $I_{F(AV)} = 200A @ T_C=80^\circ C$
- ✓ 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

preliminary data



Absolute Maximum Ratings ($T_C=25^\circ C$, unless otherwise noted.)

Symbol	Parameter	Conditions	Ratings	Unit	
V_{RRM}	peak repetitive reverse voltage	-	600	V	
V_R	D.C. reverse voltage	-	480	V	
$I_{F(AV)}$	max. average forward current	$T_C=25^\circ C$	400	A	
		$T_C=80^\circ C$	200		
I_{FSM}	non-repetitive forw. surge current	10 ms, sin 180°	$T_C=25^\circ C$	3,180	A
			$T_C=150^\circ C$	2,430	
i^2t	max. i^2t for fusing	$T_j=150^\circ C$, 10 ms, sin 180°	19,686	A ² s	
P_D	total power dissipation	$T_C=25^\circ C$	1,250	W	
		$T_C=80^\circ C$	790	W	
T_j	operating junction temperature	-	-40 ~ 175	°C	
T_{stg}	storage temperature range	-	-40 ~ 125	°C	
V_{ISOL}	Isolation test voltage	RMS, f=50Hz, t=1 minutes	2,500	V	
Weight	module		170	g	
-	terminal mounting torque (M5)	typical	3.0	N.m	

Electrical Characteristics ($T_C=25^\circ\text{C}$, unless otherwise noted.)

Symbol	Parameter	min.	typ.	max.	Units	Conditions
BV_R	cathode-anode breakdown voltage	600	-	-	V	$I_{RM} = 120\mu\text{A}$
V_F	forward voltage	-	1.23	1.48	V	$T_C=25^\circ\text{C}$, $I_F = 200\text{A}$
		-	1.15	1.34	V	$T_C=125^\circ\text{C}$, $I_F = 200\text{A}$
I_{RM}	reverse leakage current	-		120	μA	$T_j=25^\circ\text{C}$, $V_R = 600\text{V}$
t_{rr}	reverse recovery time	-	-	160	ns	$I_F = 200\text{A}$, $V=300\text{V}$, $di/dt = 500/\mu\text{s}$
$R_{th(j-c)}$	junction-to-case	-	-	0.12	$^\circ\text{C}/\text{W}$	
$R_{th(C-S)}$	case to heat-sink	-	0.05	-	$^\circ\text{C}/\text{W}$	

Performance Curves

Fig.1 Typical Forward Voltage Drop

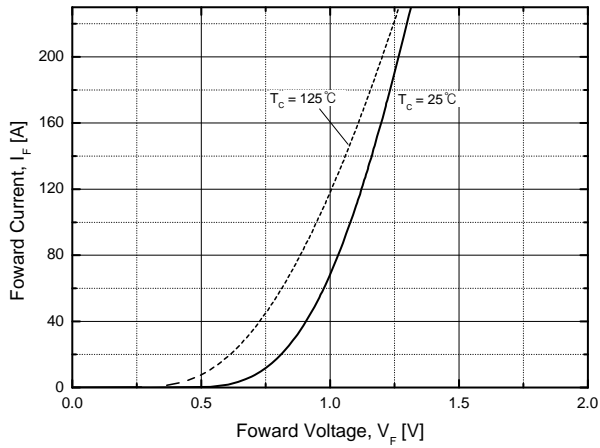


Fig.2 Typical Reverse Recovery Time

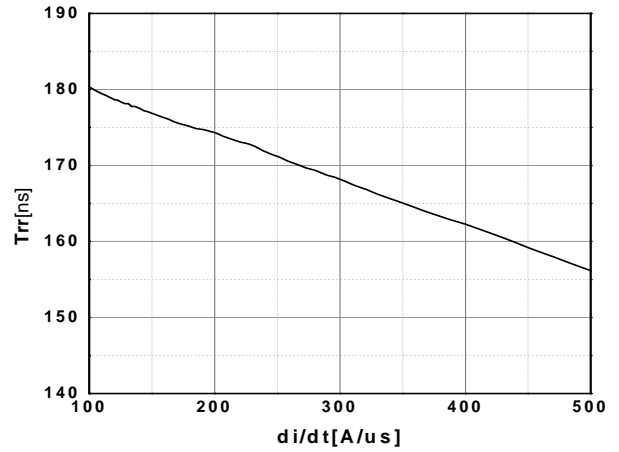


Fig3. Transient Thermal Impedance

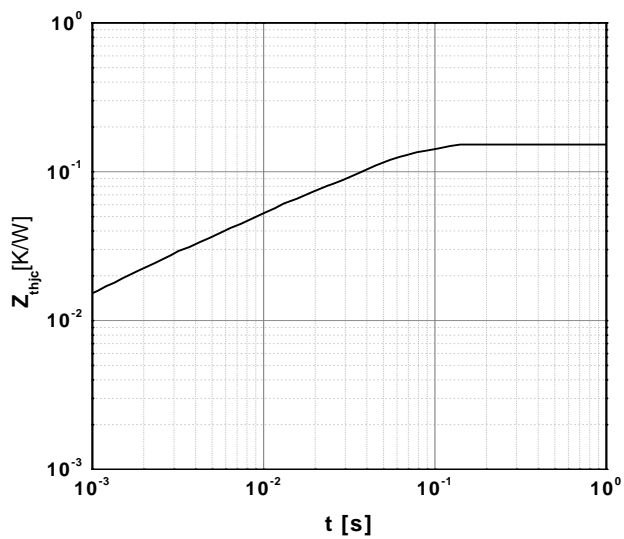
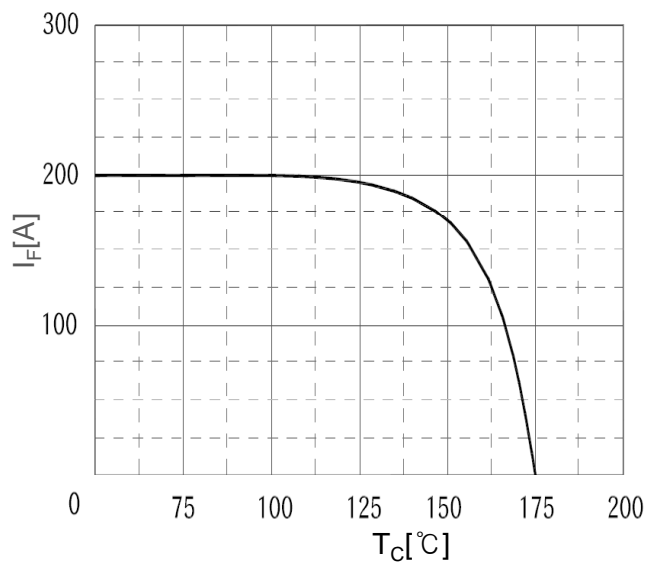
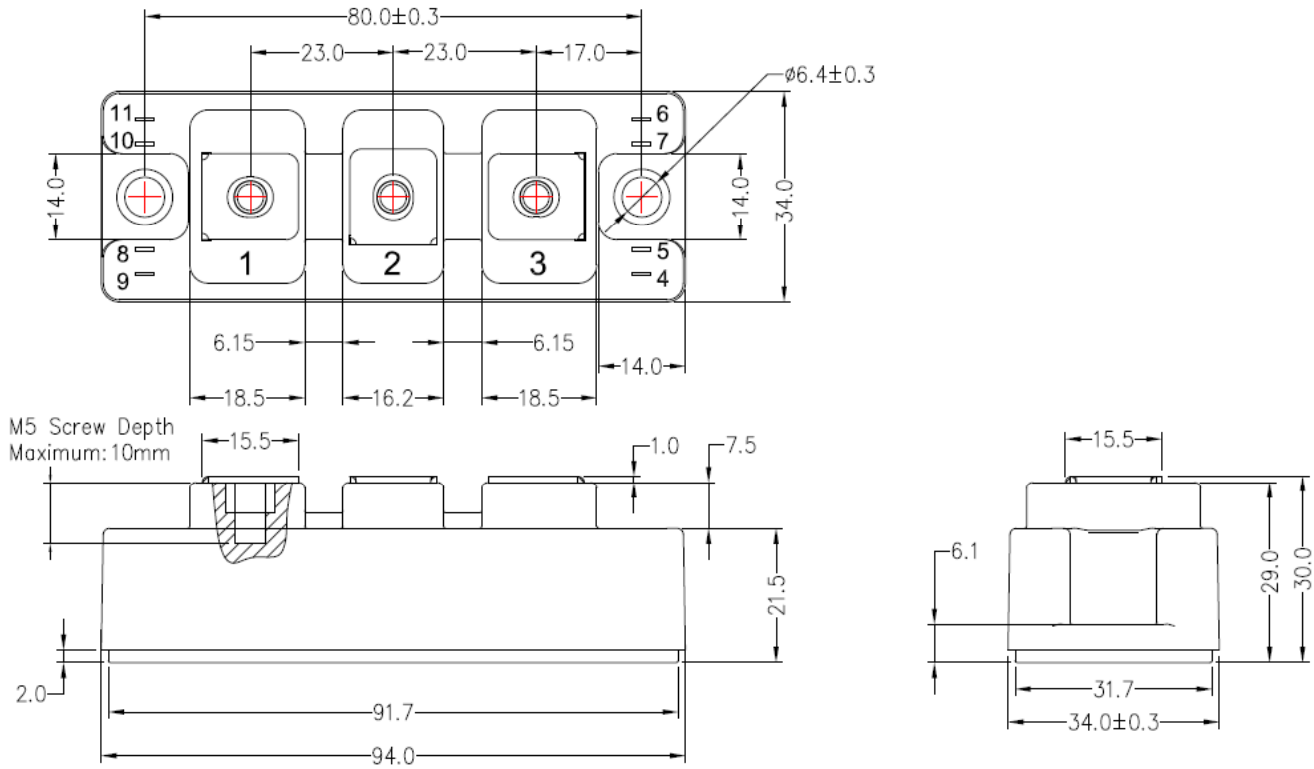


Fig4. Forward Current Derating Curve



Package Outline (Dimension in mm)



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