SWXFT100CPM

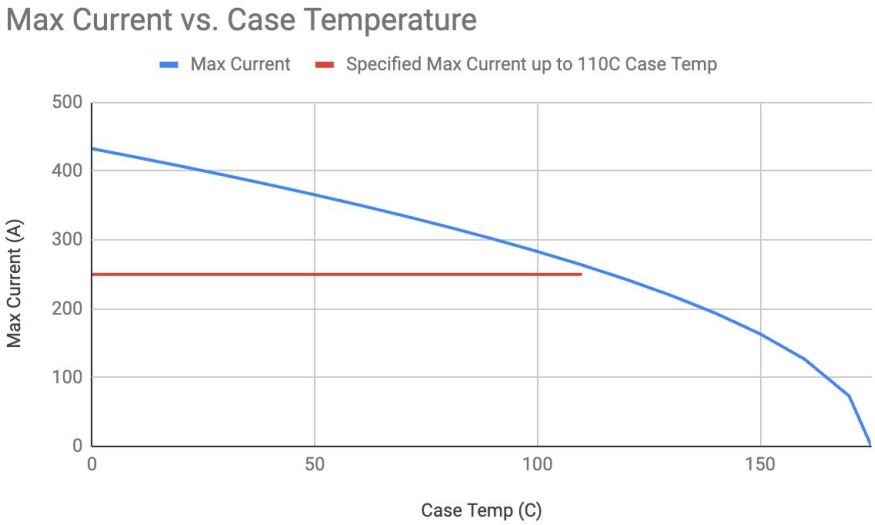
900V SiC Power Module
Common Source
Bi-Directional Blocking

Features

Ultra-low ON resistance
Bi-directional Blocking
High Fault Tolerance
High Power Density

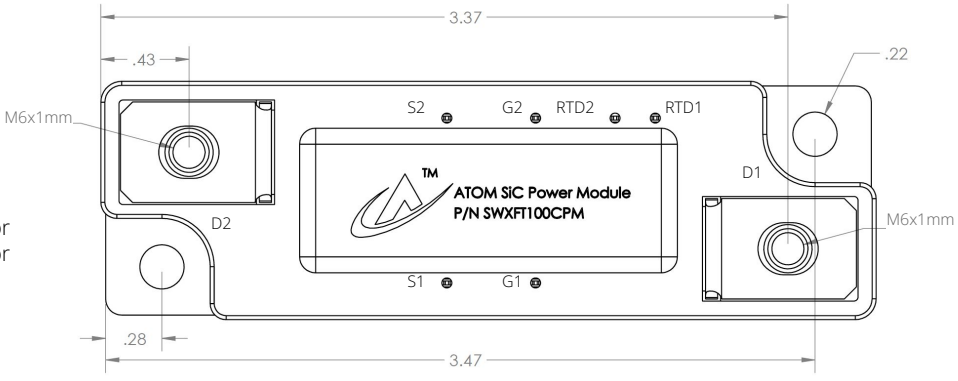
Applications

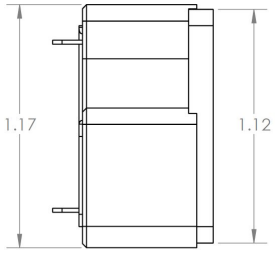
Solid-State Circuit Breakers
Circuit Protection Devices
Static Transfer Switches
Islanding Devices

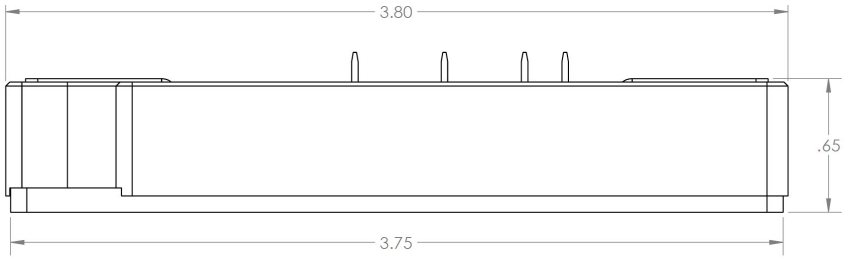


Pin Layout Key:

D1 = Drain 1 connection
D2 = Drain 2 connection
G1 = Gate 1
G2 = Gate 2
RTD1 = Baseplate resistance temperature detector
RTD2 = Baseplate resistance temperature detector
S1 = Source 1
S2 = Source 2







UL File No: E502103

Performance Data

Maximum Ratings（Tj=25℃ unless otherwise specified）

Item	Symbol	Unit	Value	Conditions
Drain-Drain voltage	VDD	V	900	
Gate-source voltage(+)	VGSS(+)	V	15	Static
Gate-source voltage(-)	VGSS(-)	V	-4	Static
Gate-source voltage(+)	VGSS(+)	V	19	Dynamic
Gate-source voltage(-)	VGSS(-)	V	-8	Dynamic
Continuous drain to drain current	IDD	A	250	Tc=110℃
Pulsed drain current	IDRM	A	1800	Pulse width limited by Tj(max)
Total power dissipation	Ptot	W	600	Tc=110℃
Junction temperature Tj(max) oC	Tj(maxx)	C	175	
Storage temperature Tstg oC	Tstg	C	125	
Isolation voltage	Viso	V	2500	AC 60Hz 1 min

Electrical Characteristics（Tj=25℃ unless otherwise specified）

Item	Symbol	Unit	Min.	Typ.	Max	
Drain-Drain breakdown voltage	V(BR)DD	V	900			VGS=0V, ID=400uA
Static drain-drain on-state voltage	VDS(on)			2.2		VGS=15V, ID= 250 A, Tj=175°C
On state resistance	RDS(on)	mOhms		6.0	6.5	VGS=15V, ID= 250A, Tj=25C
	RDS(on)	mOhms		8.5	9.0	VGS=15V, ID= 250A, Tj=175C
Drain-source leakage current	IDSS	uA		4	400	VDS=900V VGS= 0V
Gate-source threshold voltage	VGS(th)	V	1.7	2.4	3.5	VDS=VGS, ID=33mA, Tj=25C
	VGS(th)	V		1.7		VDS=VGS, ID=33mA, Tj=175C
Gate-source leakage current	IGSS	nA		40	1000	VGS=15, VDS=0

Thermal Characteristics

Item	Symbol	Unit	Min.	Typ.	Max
Junction-to-case thermal resistance Rth(j-c)					0.09 C/W

Additional Module Data

Item	Symbol	Unit	Min.	Typ.	Max
Weight	Wt	g		120	
Mounting torque		in-lb		24	
Power Terminal torque		in-lb		24	

Electrical Ratings of the Thermistor

Calibration class number	C4			
Resistance R25	1K ohm	+/- 5%	at 25	±2°C
Temperature - max operating ambient	150C			
The value that is twice Rmin	200 ohm			