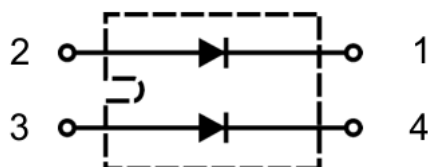


Product Summary

Product Type	V_{RRM}	$I_{F(AV)}$ @ $T_c=74^{\circ}C$	V_F	$T_j(max)$	Package	Packing
APL100HS120MB	1200V	100A	2.0V	150°C	SOT227B	Tray



Features

- Parallel Ultrafast fast recovery diodes
- Low Losses
- Package RoHS compliant
- Insulated package for 3000V isolation voltage
- High Blocking voltage

Applications

- Welding machine
- UPS
- Power Converter
- Induction heating control
- Power Rectification

Maximum Ratings($T_j=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum D.C. Reverse Voltage	V_R	1200	V
Maximum repetitive peak reverse voltage	V_{RRM}	1200	V
RMS on-state current	$I_{F(RMS)}$	140	A
average on-state current	$I_{F(AV)}$	100	A
non-repetitive peak on-state current half sine wave; $T_j(\text{init}) = 25^{\circ}C$; $t_p = 10\text{ ms}$	I_{FSM}	1400	A
I^2t for fusing $t_p = 10\text{ ms}$; sine-wave pulse	I^2T	9800	A^2s
isolation voltage 50/60 Hz; RMS; $I_{ISOL} \leq 1\text{ mA}$; $t = 1\text{ minute}$; AC	V_{isol}	3000	V
Operating junction temperature	T_{vj}	-40 to 150	$^{\circ}C$
Storage temperature	T_{stg}	-40 to 150	$^{\circ}C$
To terminals(M4)	Mt	0.7-1.1	N.M
To heatsink(M4)	Ms	0.7-1.1	N.M

Thermal characteristic

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Junction to Case Thermal Resistance(Per Diode)	$R_{th(j-c)}$			0.4	K/W
thermal resistance from junction to case, per module	$R_{th(j-c)}$			0.2	K/W

Electrical Characteristics ($T_{vj}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Forward voltage drop	V_F	$I_F = 100\text{ A}; T_j = 25^{\circ}\text{C}$		2.0	2.4	V
Forward voltage drop	V_F	$I_F = 100\text{ A}; T_j = 125^{\circ}\text{C}$		1.7		V
Maximum leakage current Per Leg	I_{RRM}	$T_j=25^{\circ}\text{C}$			0.5	mA
Maximum leakage current Per Leg	I_{RRM}	$T_j=125^{\circ}\text{C}$			10	mA
Reverse Recovery Time Per Leg	t_{rr}	$I_F=1\text{A}, di/dt = -200\text{A}/\mu\text{s}$		50	100	ns

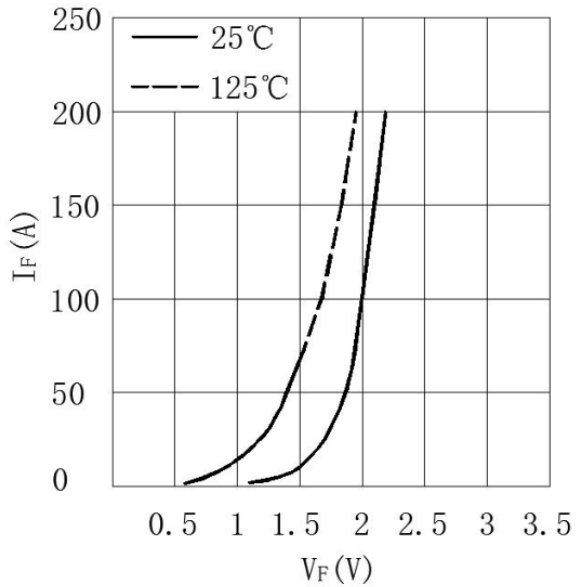


Fig1: Forward characteristic

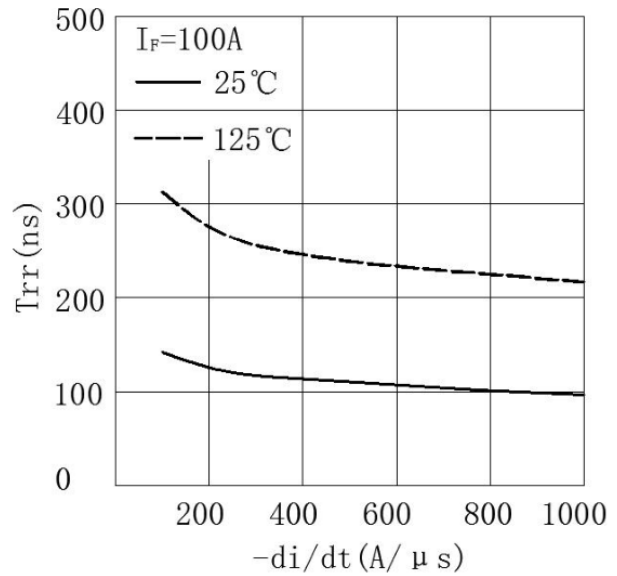


Fig2: reverse recovery time vs dI/dt

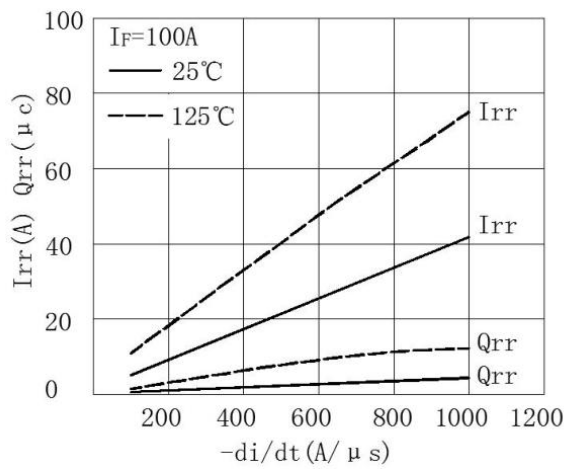


Fig3: I_{rr} & Q_{rr} vs dI/dt

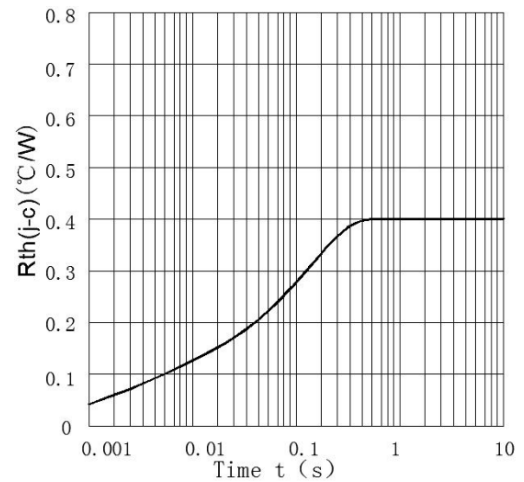


Fig4: Thermal Impedance

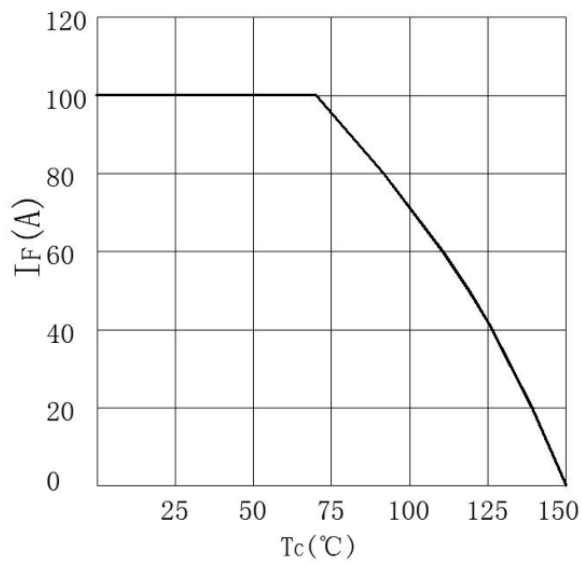


Fig5: Forward current derating curve

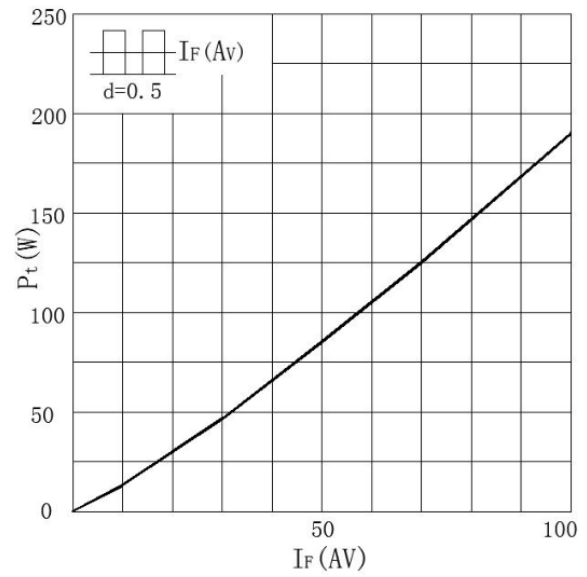


Fig6: Power dissipation

Package Outline Drawing: SOT227B

