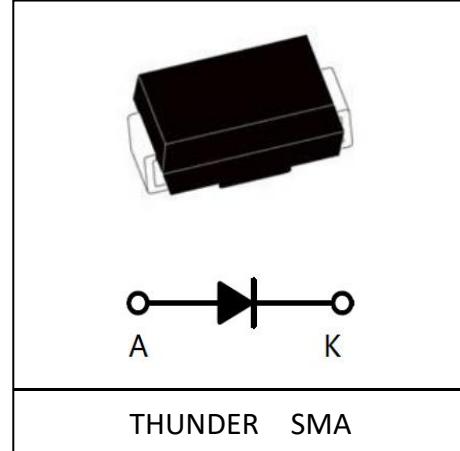


Thunder High Power Products

Planar Epitaxial Type FRED
Hyperfast Soft Recovery Diode, 1A

Features:

- Hyperfast Recovery
- 175°C operating junction temperature
- High frequency operation
- Low power loss, less RFI and EMI
- Low I_R value
- High surge capacity



Description/Applications

These diodes are optimized to less losses and EMI/RFI in high frequency power conditioning system. The soft recovery behavior of the diodes offers the need as snubber in most applications. These devices are ideally suited for SMT welding power converters and other applications where the switching losses are not significant portion of the total losses.

Absolute Maximum Ratings

Parameter	Symbol	Test Conditions	Values	Unit
Repetitive peak reverse voltage	V_{RRM}		600	V
Continuous forward current	$I_{F(AV)}$	$T_c = 110^\circ C$	1	
Single pulse forward current	I_{FSM}	$T_c = 25^\circ C$	55	A
Maximum repetitive forward current	I_{FRM}	Square wave, 20kHz	4	
Operating junction	T_j		175	°C
Storage temperatures	T_{stg}		-55 to +150	°C

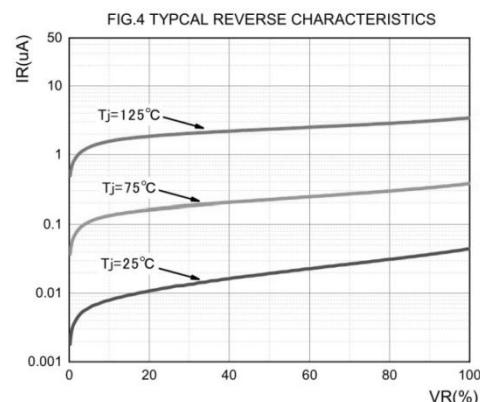
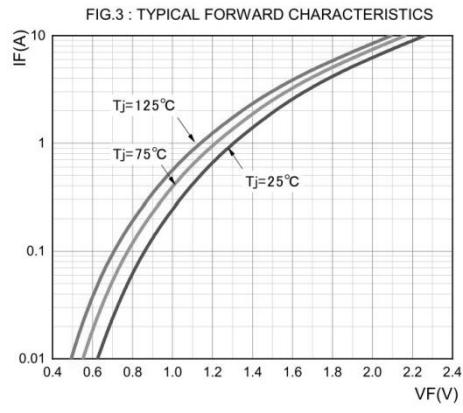
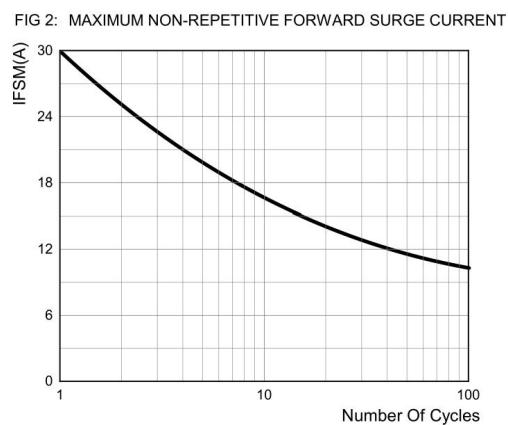
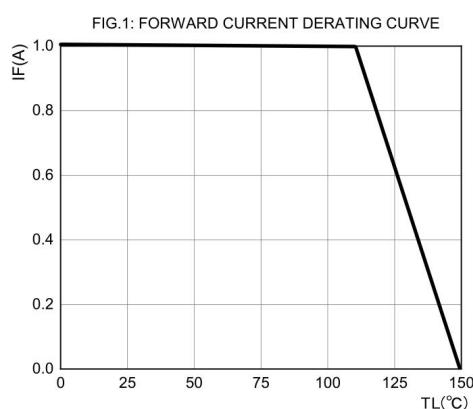
Electrical characteristics (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Breakdown voltage Blocking voltage	V _{BR} , V _R	I _R =100μA	600			V
Forward voltage	V _F	I _F =1A, T _j =25°C		1.65		
		I _F =1A, T _j =100°C		1.55		
Reverse leakage current(Per Diode)	I _R	V _R = V _{RRM} , T _j =25°C			5	μA
		T _j =100°C, V _R =600V			100	
Reverse recovery time(Per Diode)	t _{rr}	I _F =0.5A, I _R =1A, I _{RR} =0.25A		16		ns
		I _F =1A, V _R =30V, di/dt =200A/us		13		

Thermal characteristics

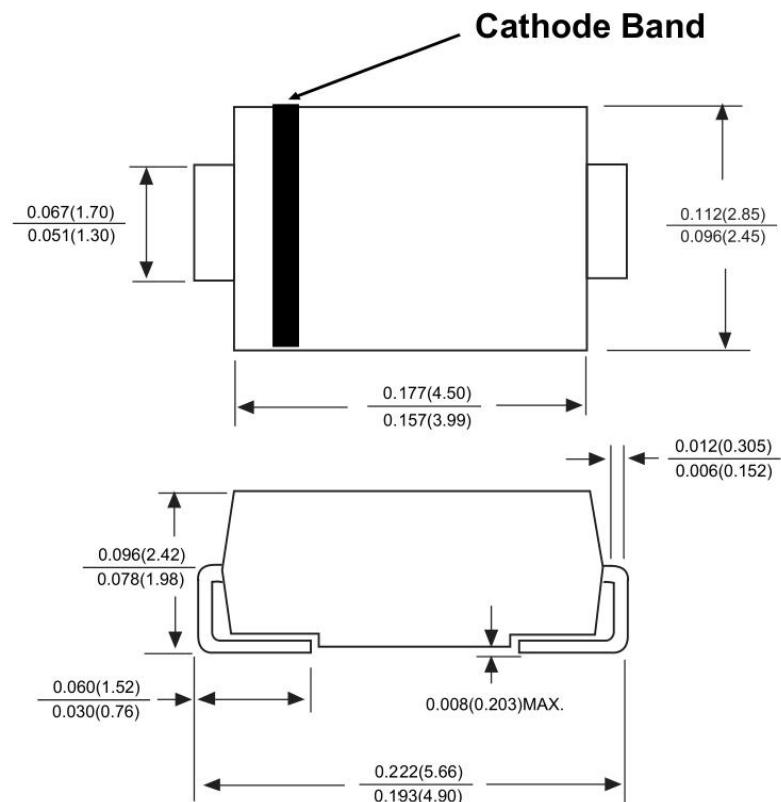
Paramter	Symbol	Typ.	Unit
R _{θJL}	Typical Thermal Resistance	27	°C/W

Electrical performance (typical)



Package Information

SMA PACKAGE



Dimensions in inches and (millimeters)

Notice

Thunder Microelectronics Incorporated Limited reserves the right to make changes without further notice to any products or specifications herein. When use the product, be sure to obtain the latest specification.

Thunder Microelectronics Incorporated Limited does not assume any liability arising out of the application or any product described herein. When using Thunder Microelectronics Incorporated Limited products in your equipment, you are requested to take adequate safety measures to prevent the equipment from causing a physical injury ,fire or other problem if any of the products become faulty.

-Headquarters

WuXi Thunder Microelectronics Incorporated Limited

Building E1-9, No.200 LingHu Road, XinWu district,WuXi,China 214135

Tel:+86-510-85160109 Fax:+86-510-85160109