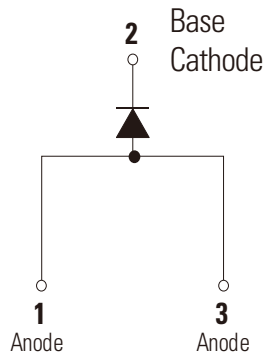


DSTD5200



Pin out



Description

Littelfuse DST series Ultra Low V_F Schottky Barrier Rectifier is designed to meet the general requirements of commercial and industry applications by providing high temperature, low leakage and lower V_F products.

It is suitable for high frequency switching mode power supply, free-wheeling diodes and polarity protection diodes.

Features

- Ultra low forward voltage drop
- High frequency operation
- High junction temperature capability
- Guard ring for enhanced ruggedness and long term reliability
- Single die in TO-252 package

Applications

- Switching mode power supply
- DC/DC converters
- Free-Wheeling diodes
- Polarity Protection Diodes

Maximum Ratings

Parameters	Symbol	Test Conditions	Max	Unit
Peak Inverse Voltage	V_{RWM}	-	200	V
Average Forward Current (per device)	$I_{F(AV)}$	50% duty cycle @ $T_C = 100^\circ\text{C}$ rectangular wave form	5	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	120	A

Electrical Characteristics

Parameters	Symbol	Test Conditions	Typ	Max	Unit
Breakdown Voltage (per leg) *	V_{BR}	@ $I_r = 1.0\text{mA}$, $T_J = 25^\circ\text{C}$	200(Min)	-	V
Forward Voltage Drop (per leg) *	V_{F1}	@2.5A, Pulse, $T_J = 25^\circ\text{C}$	0.72	-	V
		@5A, Pulse, $T_J = 25^\circ\text{C}$	0.81	0.90	
	V_{F2}	@2.5A, Pulse, $T_J = 125^\circ\text{C}$	0.60	-	
		@5A, Pulse, $T_J = 125^\circ\text{C}$	0.67	0.73	
Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R$, $T_J = 25^\circ\text{C}$	0.19	150	μA
	I_{R2}	@ $V_R = \text{rated } V_R$, $T_J = 125^\circ\text{C}$	0.33	10	mA

* Pulse Width < 300 μs , Duty Cycle <2%

Thermal-Mechanical Specifications

Parameters	Symbol	Test Conditions	Max	Unit
Junction Temperature	T_J		-55 to +150	°C
Storage Temperature	T_{stg}		-55 to +150	°C
Typical Thermal Resistance Junction to Case	R_{thJC}	DC operation	2.4	°C/W
Approximate Weight	wt		0.39	g
Case Style		DPAK (TO-252)		

Figure 1: Typical Forward Characteristics

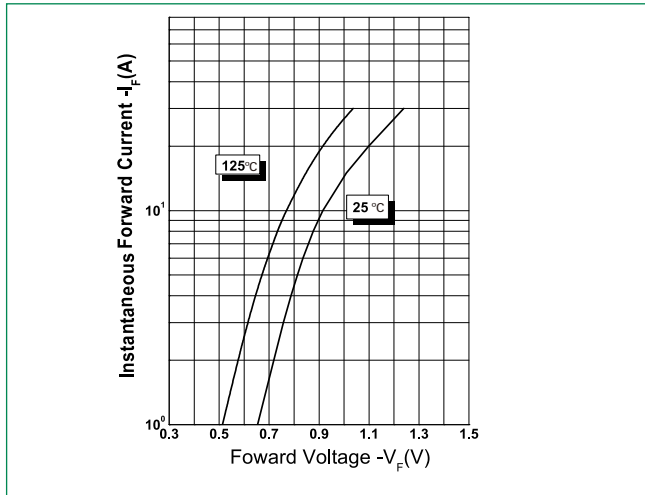


Figure 2: Typical Reverse Characteristics

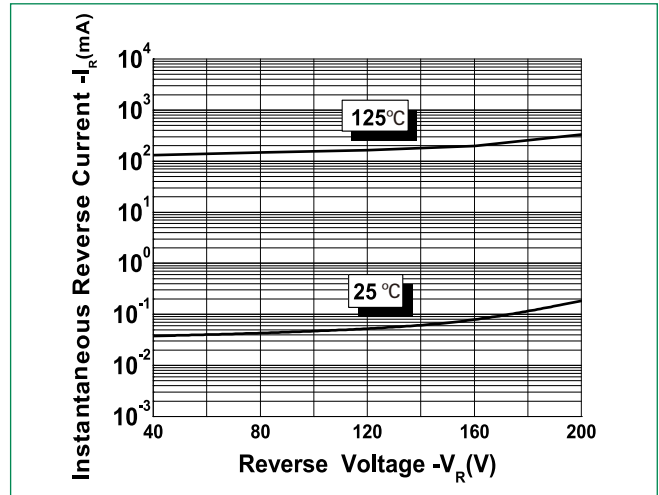
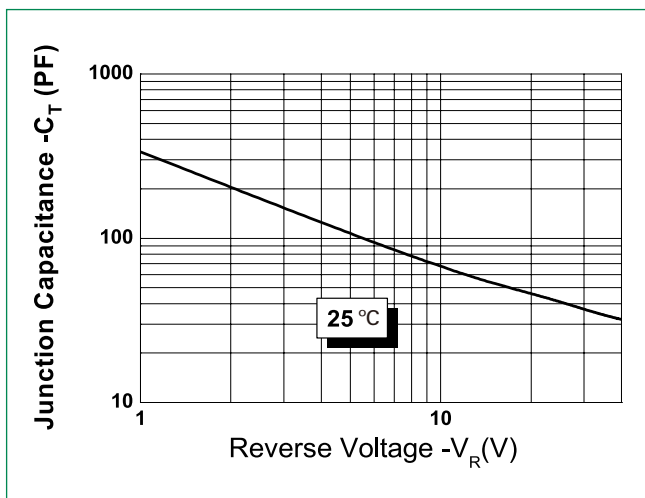


Figure 3: Typical Junction Capacitance



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