

TECHNICAL DATA
DATA SHEET 5021, REV. A.1
Replaces SHD3153

HERMETIC POWER ULTRAFAST RECTIFIER

DESCRIPTION: A 600 VOLT, 25 AMP, 50 NANOSECOND HERMETIC POWER ULTRAFAST RECTIFIER IN A SHD-2 / 2B HIGH PROFILE PACKAGE.

Features:

- Low Forward Voltage Drop
- Ultrafast Reverse Recovery
- Low Power Loss, High Efficiency
- Very High Surge Capacity
- JANTX (suffix S) and JANS (suffix SS) equivalent screening options
- Add suffix R for Reverse Polarity (SHD375493R / SHD375493BR)

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	$I_R = 100\mu A, T_C = 25^\circ C$	600	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle, rectangular wave form, $T_C = 85^\circ C$	25	A
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 msec, sine pulse	150	A
Thermal Resistance	R_{TH}	Standard Version Reverse Polarity Version	1.0 1.2	$^\circ C/W$
Max. Junction Temperature	T_J	-	- 55 to + 150	$^\circ C$
Max. Storage Temperature	T_{stg}	-	- 55 to + 150	$^\circ C$

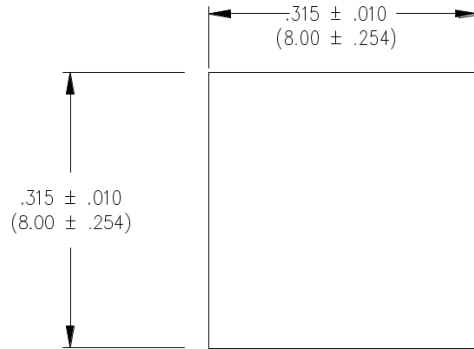
Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Max. Forward Voltage Drop	V_{F1}	@ 5A, Pulse, $T_J = 25^\circ C$	1.03	1.16	V
		@ 10A, Pulse, $T_J = 25^\circ C$	1.18	1.30	
		@ 20A, Pulse, $T_J = 25^\circ C$	1.36	1.50	
	V_{F2}	@ 5A, Pulse, $T_J = 125^\circ C$	0.78	0.95	V
		@ 10A, Pulse, $T_J = 125^\circ C$	0.92	1.10	
		@ 20A, Pulse, $T_J = 125^\circ C$	1.09	1.27	
	V_{F3}	@ 5A, Pulse, $T_J = -55^\circ C$	1.18	1.35	V
		@ 10A, Pulse, $T_J = -55^\circ C$	1.30	1.48	
		@ 20A, Pulse, $T_J = -55^\circ C$	1.46	1.64	
Max. Reverse Current	I_{R1}	@ $V_R = 600V$, Pulse, $T_J = 25^\circ C$	10	50	μA
	I_{R2}	@ $V_R = 480V$, Pulse, $T_J = 125^\circ C$	0.05	1	mA
Reverse Recovery Time	T_{RR}	$I_F = 0.5A; I_{RM} = 1A, I_{RR} = 0.25A$ $T_J = 25^\circ C$	43	50	ns
Capacitance	C_J	$V_R = 10V, f = 1MHz$	80	120	pF

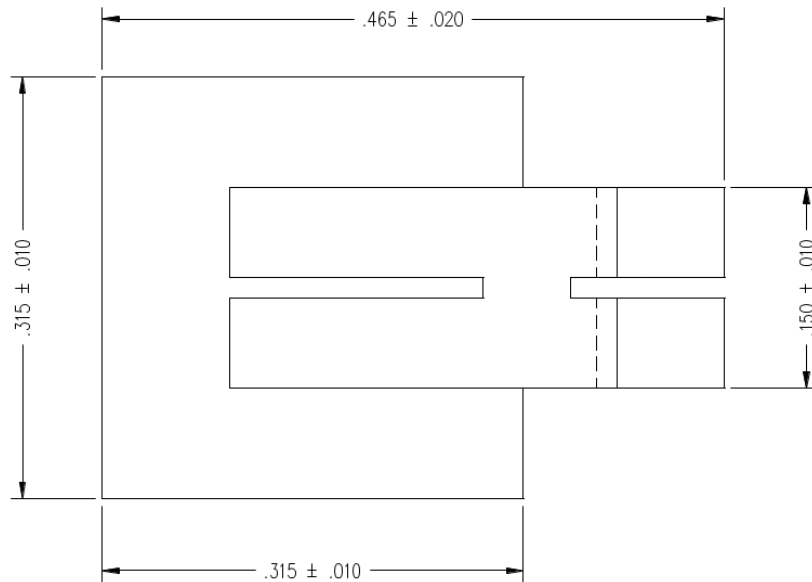
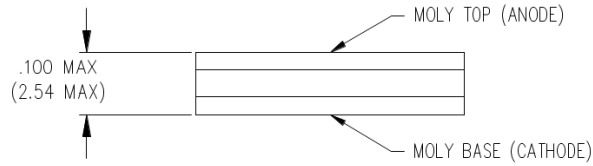
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MECHANICAL DIMENSIONS*: In Inches / mm

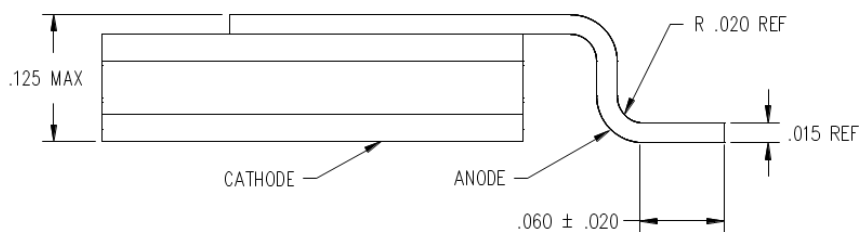
*Dimensions shown are with solder dipping.



SHD-2 HP



SHD-2B HP



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PART ORDERING INFORMATION:

SHD375493BXX X

↓
Part Number

Screening Level (blank is no screening):

Suffix	Screened in Accordance with:
blank	No screening level
S	MIL-PRF-19500, TXV Level
SS	MIL-PRF-19500, S Level

QCI (blank is no QCI):

Suffix	Inspection in Accordance with:
blank	No QCI
Q	MIL-PRF-19500 QCI

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