



**THE DATASHEET OF
VS-112CNQ030APBF**



ABSOLUTE MAXIMUM RATINGS					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum average forward current See fig. 5	$I_{F(AV)}$	50 % duty cycle at $T_C = 131\text{ }^\circ\text{C}$, rectangular waveform		55	A
				per leg	
Maximum peak one cycle non-repetitive surge current per leg See fig. 7	I_{FSM}	5 μs sine or 3 μs rect. pulse	Following any rated load condition and with rated V_{RRM}	5100	A
		10 ms sine or 6 ms rect. pulse		880	
Non-repetitive avalanche energy per leg	E_{AS}	$T_J = 25\text{ }^\circ\text{C}$, $I_{AS} = 8\text{ A}$, $L = 1.12\text{ mH}$		36	mJ
Repetitive avalanche current per leg	I_{AR}	Current decaying linearly to zero in 1 μs Frequency limited by T_J maximum $V_A = 1.5 \times V_R$ typical		8	A

ELECTRICAL SPECIFICATIONS					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum forward voltage drop per leg See fig. 1	$V_{FM}^{(1)}$	55 A	$T_J = 25\text{ }^\circ\text{C}$	0.49	V
		110 A		0.57	
		55 A	$T_J = 125\text{ }^\circ\text{C}$	0.39	
		110 A		0.51	
Maximum reverse leakage current per leg See fig. 2	$I_{RM}^{(1)}$	$T_J = 25\text{ }^\circ\text{C}$	$V_R = \text{Rated } V_R$	3.5	mA
		$T_J = 125\text{ }^\circ\text{C}$		400	
Maximum junction capacitance per leg	C_T	$V_R = 5 V_{DC}$, (test signal range 100 kHz to 1 MHz), $25\text{ }^\circ\text{C}$		5100	pF
Typical series inductance per leg	L_S	Measured lead to lead 5 mm from package body		5.5	nH
Maximum voltage rate of change	dV/dt	Rated V_R		10 000	V/ μs

Note

(1) Pulse width < 300 μs , duty cycle < 2 %

THERMAL - MECHANICAL SPECIFICATIONS					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum junction and storage temperature range	T_J, T_{Stg}			- 55 to 150	$^\circ\text{C}$
Maximum thermal resistance, junction to case per leg	R_{thJC}	DC operation See fig. 4		0.5	$^\circ\text{C/W}$
Maximum thermal resistance, junction to case per package		DC operation		0.25	
Typical thermal resistance, case to heatsink (D-61-8 only)	R_{thCS}	Mounting surface, smooth and greased Device flatness < 5 mils		0.30	
Approximate weight				7.8	g
				0.28	oz.
Mounting torque (D-61-8 only)	minimum			40 (35)	kgf · cm
	maximum			58 (50)	(lbf · in)
Marking device				112CNQ030A	
				112CNQ030ASM	
				112CNQ030ASL	



VS-112CNQ030A PbF Series

Schottky Rectifier
New Generation 3 D-61 Package, 2 x 55 A

Vishay High Power Products

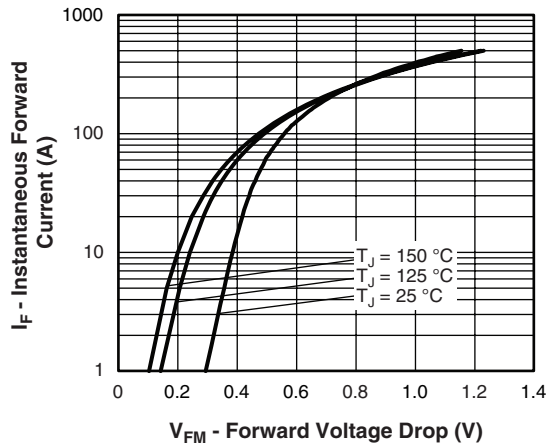


Fig. 1 - Maximum Forward Voltage Drop Characteristics (Per Leg)

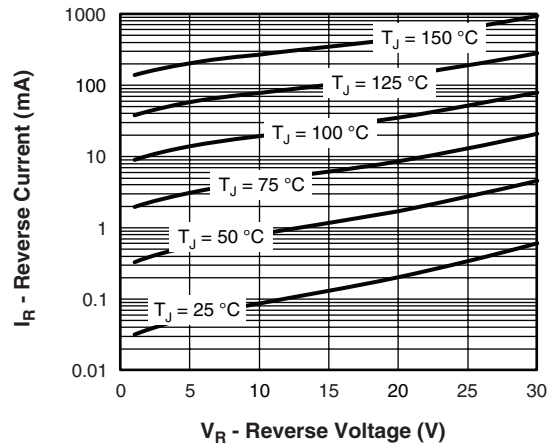


Fig. 2 - Typical Values of Reverse Current vs. Reverse Voltage (Per Leg)

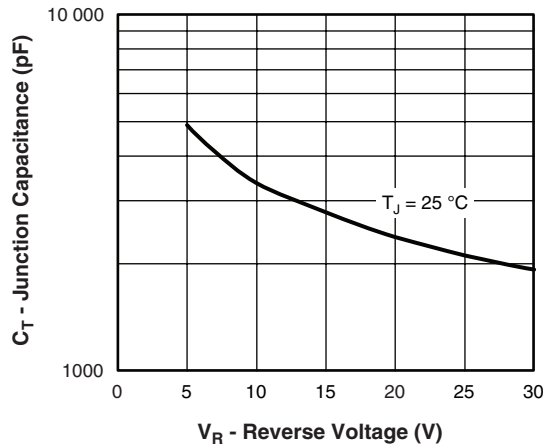


Fig. 3 - Typical Junction Capacitance vs. Reverse Voltage (Per Leg)

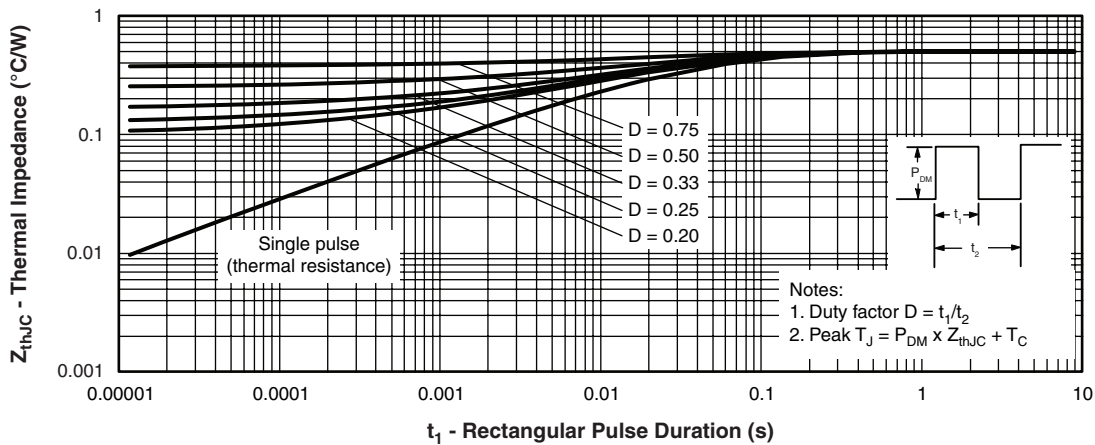


Fig. 4 - Maximum Thermal Impedance Z_{thJC} Characteristics (Per Leg)

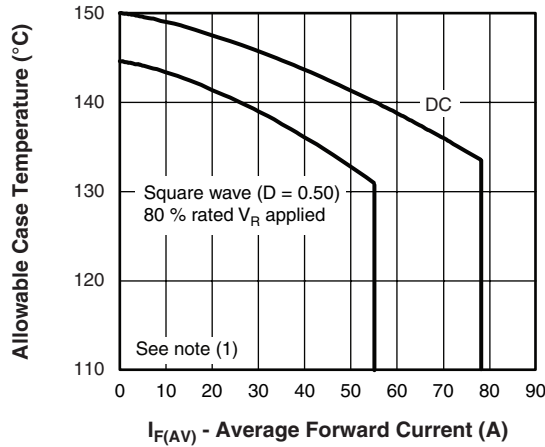


Fig. 5 - Maximum Allowable Case Temperature vs. Average Forward Current (Per Leg)

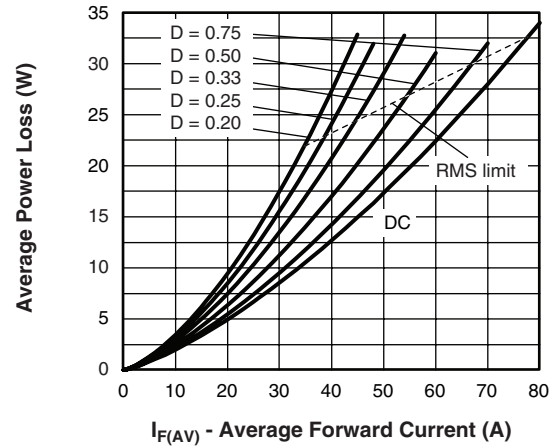


Fig. 6 - Forward Power Loss Characteristics (Per Leg)

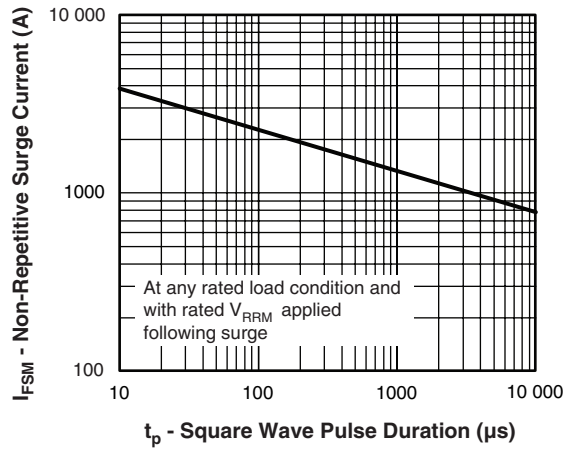


Fig. 7 - Maximum Non-Repetitive Surge Current (Per Leg)

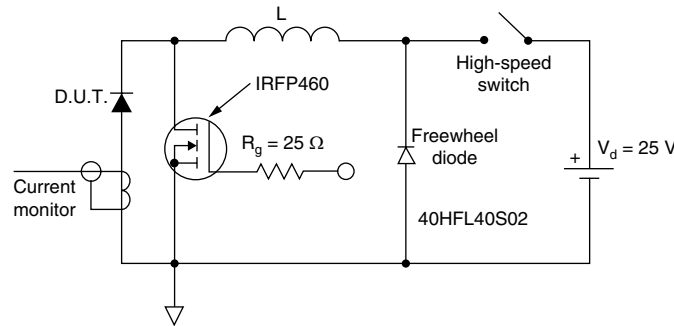


Fig. 8 - Unclamped Inductive Test Circuit

Note

- (1) Formula used: $T_C = T_J - (P_d + P_{d_{REV}}) \times R_{thJC}$;
- P_d = Forward power loss = $I_{F(AV)} \times V_{FM}$ at $(I_{F(AV)}/D)$ (see fig. 6);
- $P_{d_{REV}}$ = Inverse power loss = $V_{R1} \times I_R (1 - D)$; I_R at $V_{R1} = 80\%$ rated V_R



VS-112CNQ030A PbF Series

Schottky Rectifier
New Generation 3 D-61 Package, 2 x 55 A

Vishay High Power Products

ORDERING INFORMATION TABLE

Device code	VS-	112	C	N	Q	030	A	PbF
	①	②	③	④	⑤	⑥	⑦	⑧

- 1** - HPP product suffix
- 2** - Current rating (110 A)
- 3** - Circuit configuration:
C = Common cathode
- 4** - Package:
N = D-61
- 5** - Schottky "Q" series
- 6** - Voltage rating (030 = 30 V)
- 7** - Package style:
 - A = D-61-8
 - ASM = D-61-8-SM
 - ASL = D-61-8-SL
- 8** -
 - None = Standard production
 - PbF = Lead (Pb)-free

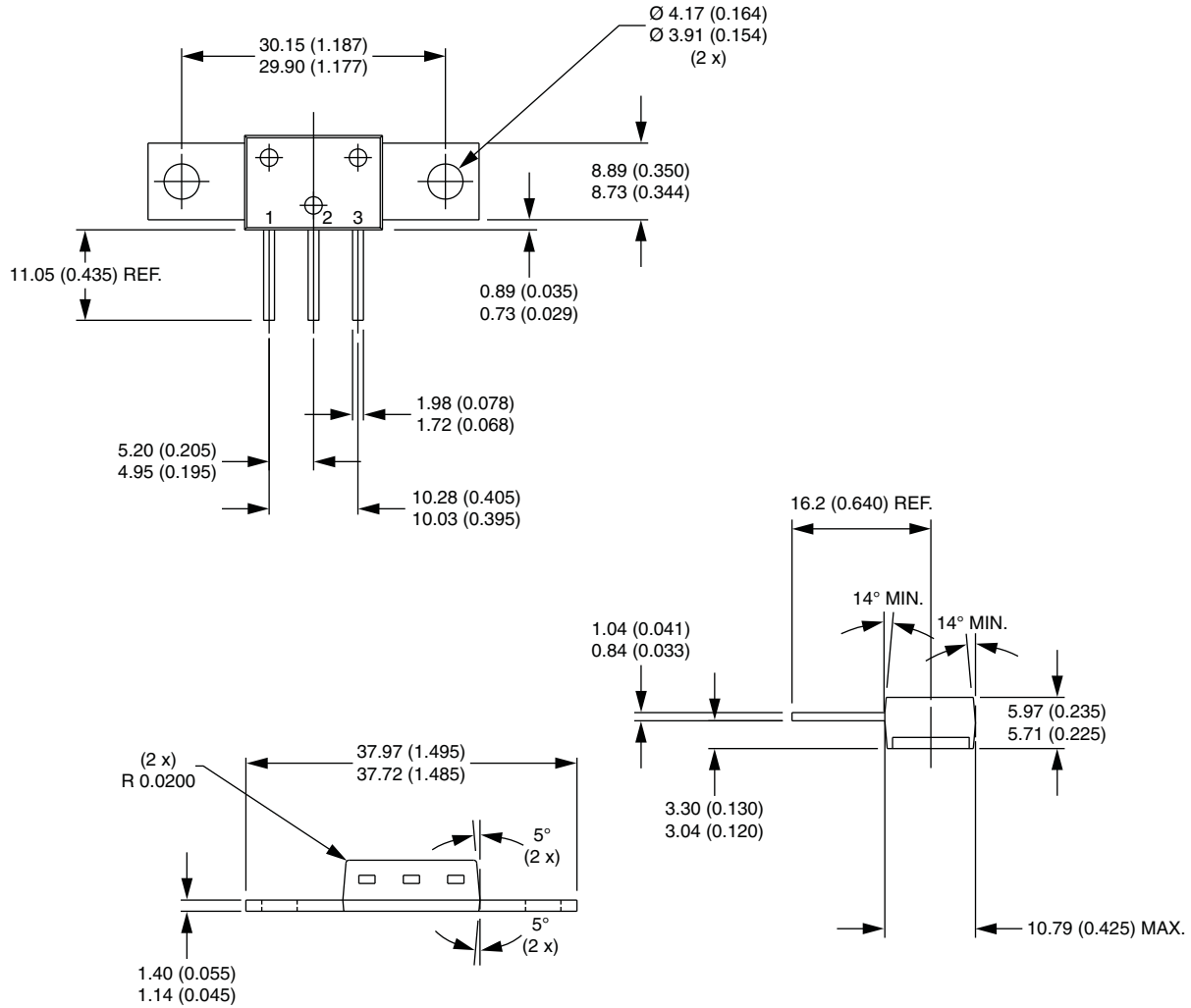
Standard pack quantity: A = 10 pieces; ASM/ASL = 20 pieces

LINKS TO RELATED DOCUMENTS	
Dimensions	www.vishay.com/doc?95354
Part marking information	www.vishay.com/doc?95356



D-61-8, D-61-8-SM, D-61-8-SL

DIMENSIONS - D-61-8 in millimeters (inches)



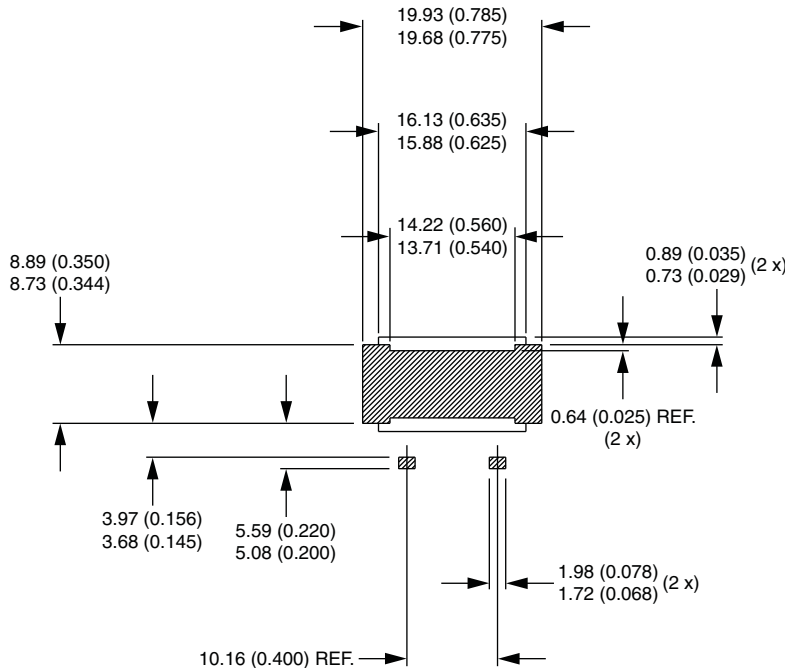
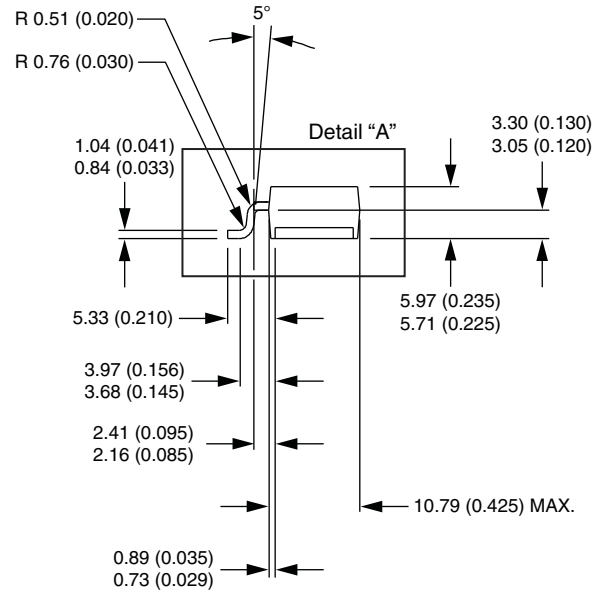
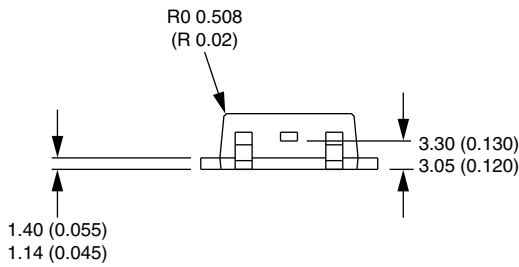
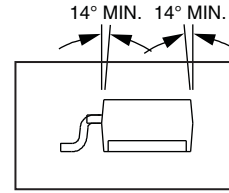
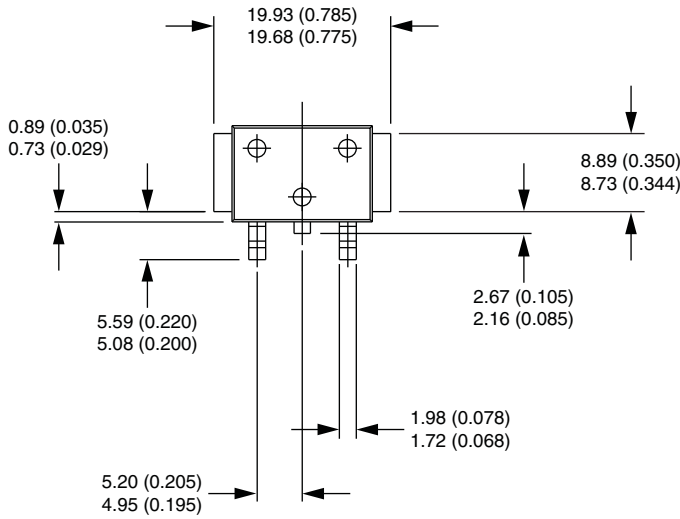


DIMENSIONS - D-61-8-SM in millimeters (inches)





DIMENSIONS - D-61-8-SL in millimeters (inches)





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