

TECHNICAL DATA

PART NUMBER: SCP-5282-36/A, REV B

**High Pulse Power Mil-STD-1275 & ISO-16750-2 SuperClamp
(Below 40V at 110A)**

Key Features:

- Clamping below 40V DC for 100V, and 250V pulses
- High Pulse Power Capability
- Unidirectional
- Designed for safe paralleling
- Precision Clamping
- MTBF by MIL STD 217F amended to reflect ANSI Vita S1.0-2008 (2013): 372,300 hours at 50°C Full Load Ground Mobile (GM)



Applications:

- +28V DC systems
- Enables compliance with MIL-STD-1275D-E-F, ISO-16750-2 requirements for Injected Surges and Spikes

Protection Level:

- MIL-STD-1275 Compliant for surges - 100V Surge withstanding for 100 msec with 0.5-ohm source impedance, clamping below 40V.
- ISO-16750-2 Load Dump Compliant; 202V with source impedance above 2 ohms, or 151V source impedance above 1 ohm, Surge withstanding for 350 msec.
- Two or more devices may be connected in parallel for clamping currents above 100A.
- Designed to meet SAE J1113-11 under following conditions:
 - ✓ 174V, 2-ohm up to 150msec
 - ✓ 174V, 5-ohm up to 350msec
- 100% tested for 10-msec single pulse from 1A up to 110A followed by 50 msec, 5 pulses, at 1 sec intervals at 100A

Part Ordering Information:

- SCP-5282-36, unidirectional
- SCP-5282-36A, unidirectional with reverse polarity protection

SENSITRON

SEMICONDUCTOR

SCP-5282-36
SCP-5282-36A

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TECHNICAL DATA (All parameters are at Tc = 25°C unless otherwise specified)

Rating	Condition	Symbol	Min	Typ	Max	Units
Peak Pulse Power Dissipation	1ms	P _{pk}	-		10	KW
Steady State Power Dissipation	-	P	-		150	Watts
Reverse Stand-Off Voltage	-	V _{WM}	-	28	34	Volts
Reverse Leakage. from + to -	@ 28V	I _D	4.0	5.2	10 ⁽¹⁾	mA
Reverse Leakage. from + to -	@ 34V	I _D	5.0	7.0	12 ⁽¹⁾	mA
Reverse Leakage. from + to -	@ 36V	I _D	6	12	20	mA
Reverse Clamping Voltage, from + to -	@ 1A	V _{clamp}	36.40	36.61	36.85	Volts
	@ 10A		36.60	36.80	37.00	
	@ 50A		37.32	37.62	37.92	
	@ 100A		38.35	38.65	39.00	
	@ 110A		38.45	38.85	39.35	
Peak Pulse Current Tc up to 50 °C (single 100-msec square pulse)	-	I _{PP}			100 ⁽²⁾⁽³⁾	Amps
Typical V _{clamp} vs. Current (pulse width limited by conditions above)	@ 0 to 120A		36.59 + 0.02056 * I _{clamp} ⁽²⁾			V
Forward Clamping Voltage, from - to + SCP-5282-36 SCP-5282-36A	@ 10A	V _c	1	1.7	2.8	V
			44	48	50	
Operating & Storage Temp.	-	T _{op} & T _{stg}	-55		+ 150	°C

Notes:

- (1) This is the maximum leakage at T_A of 85°C ambient.
- (2) Device should be mounted to a heat sink if pulses are repeated.
- (3) For Tc above 50°C, derate linearly up 150°C as shown in Fig. 1.

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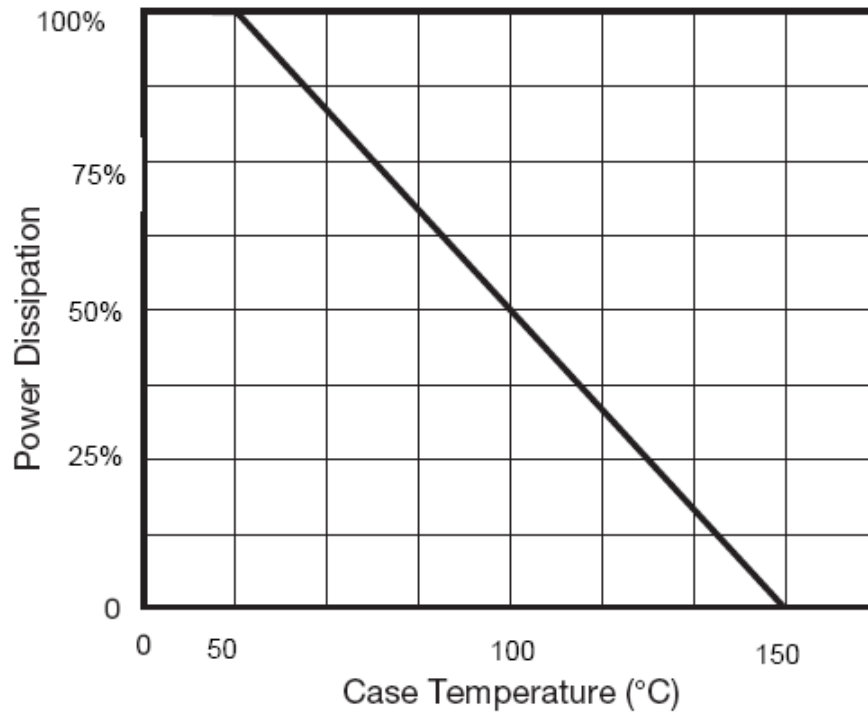


Fig. 1 - Power Derating Curve

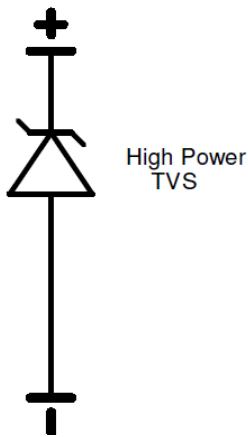


Fig. 2 Unidirectional Clamp Protection
Part number SCP-5282-36

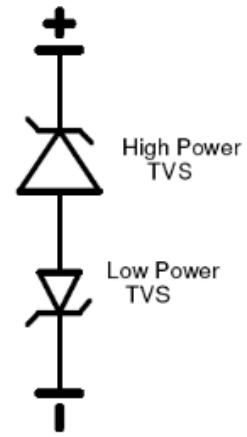


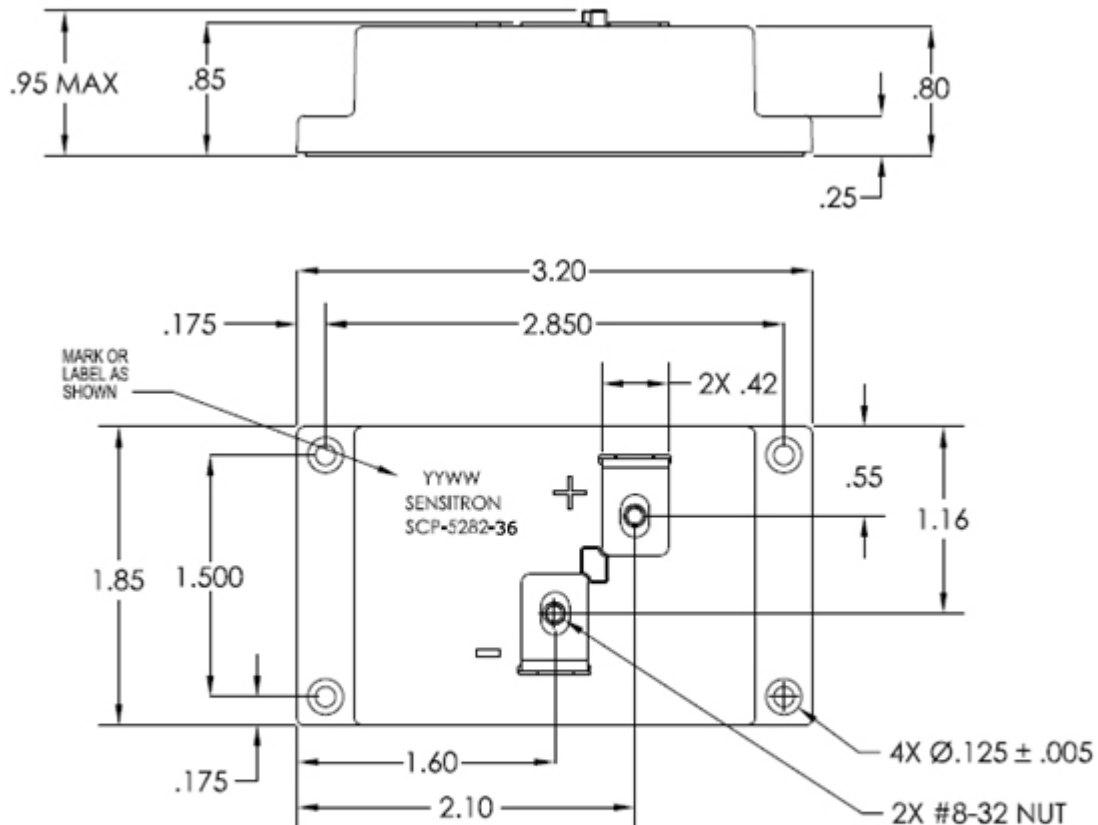
Figure 3 Unidirectional Clamp with Reverse polarity
Part Number SCP-5282-36A

SENSITRON **SEMICONDUCTOR**

SCP-5282-36
SCP-5282-36A

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MECHANICAL OUTLINE (in):



TOLERANCE
.XX = $\pm .020$
.XXX = $\pm .010$

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