

ELECTRO POWER

D860-..1800V

STANDARD RECOVERY DIODES

Stud Version

Features

- Wide current range
- High surge current capabilities
- Diffused junction
- STUD version

Typical Applications

- Converters
- Power supplies
- Machine tool controls
- High power drives
- Medium traction applications

800A

Major Ratings and Characteristics

Parameters	D860-1800V	Units
IF(AV)	800	A
@ T _{hs}	85	°C
IF(RMS)	1435	A
@ T _{hs}	25	°C
IFSM @ 50Hz	8250	A
@ 60Hz	8640	A
I _{2t} @ 50Hz	340	KA2s
@ 60Hz	311	KA2s
VRRM range	1800	V
T _J	-40 to 150	°C

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Voltage Ratings

Type number	Voltage Code	V_{RRM} , maximum repetitive peak reverse voltage V	V_{RSM} , maximum non- repetitive peak rev. voltage V	I_{RRM} max. @ $T_J = T_{J \text{ max.}}$ mA
D860-..C(A)	18	1800	1900	30

Forward Conduction

Parameter	SD1600C..K	Units	Conditions
$I_{F(AV)}$ Max. average forward current @ Case temperature	800	A	180° conduction, half sine wave
	110	°C	
$I_{F(RMS)}$ Max. RMS forward current	1435	A	DC @ $T_C = 75^\circ\text{C}$ (04 to 20), $T_C = 36^\circ\text{C}$ (25 to 32)
I_{FSM} , Maximum peak, one-cycle forward, non-repetitive surge current	8250	A	t = 10ms No voltage
	8640		t = 8.3ms reapplied
	6940		t = 10ms 100% V_{RRM}
	7265		t = 8.3ms reapplied
$I^2 t$ Maximum $I^2 t$ for fusing	340	KA ² s	t = 10ms No voltage
	311		t = 8.3ms reapplied
	241		t = 10ms 100% V_{RRM}
	220		t = 8.3ms reapplied
$I^2 \sqrt{t}$ Maximum $I^2 \sqrt{t}$ for fusing	3400	KA ² √s	t = 0.1 to 10ms, no voltage reapplied
$V_{F(TO)}$ Low level value of threshold voltage	0.80	V	$T_J = 200^\circ\text{C}$
r_f Max. value of forward slope resistance	0.31	mΩ	
V_{FM} Max. forward voltage drop	1.40	V	($I_{FM} \times \pi \times I_{F(AV)}$) (4000A Peak), $T_J = 25^\circ\text{C}$

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Thermal and Mechanical Specifications

Parameter	SD1600C..K.	Units	Conditions
T J	- 40 to 150	°C	
Tstg	- 40 to 150		
R thJC Thermal Impedance, max.	0.042	K/W	DC operation
R thCS Max. thermal resistance, case to heatsink	0.02		Mounting surface, smooth, flat and greased
F Mounting force, ± 10%		Nm	Not lubricated threads
	23		Lubricated threads
wt Approximate weight	430	g	
Case style			See Outline Table

Device Code

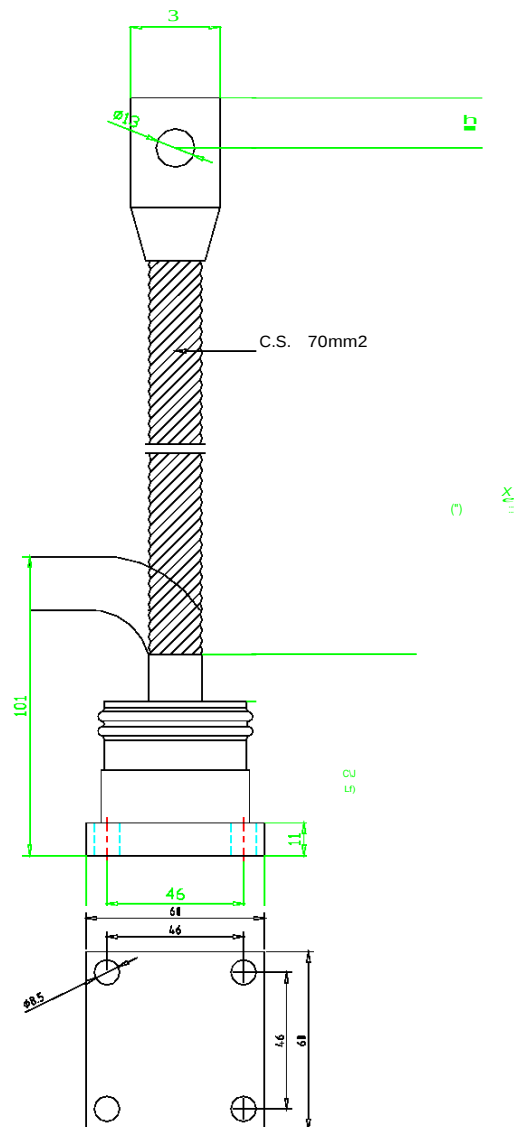
D	860	-	16	C
1	2		3	4

- 1 - Diode
- 2 - Corporation code Average Forward Current: I_{FAV}
- 3 - Voltage code: Code x 100 = VRRM (See Voltage Ratings table)
- 4 - C = Stud Normal Polarity (Cathode to Stud)
 - A = Stud Reverse Polarity (Anode to Stud)

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Outline Table



Electro Power Enterprise

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