85HFR160 series stud type diode

Features

- Wide current range
- High surge current capabilities
- Stud cathode and stud anode version

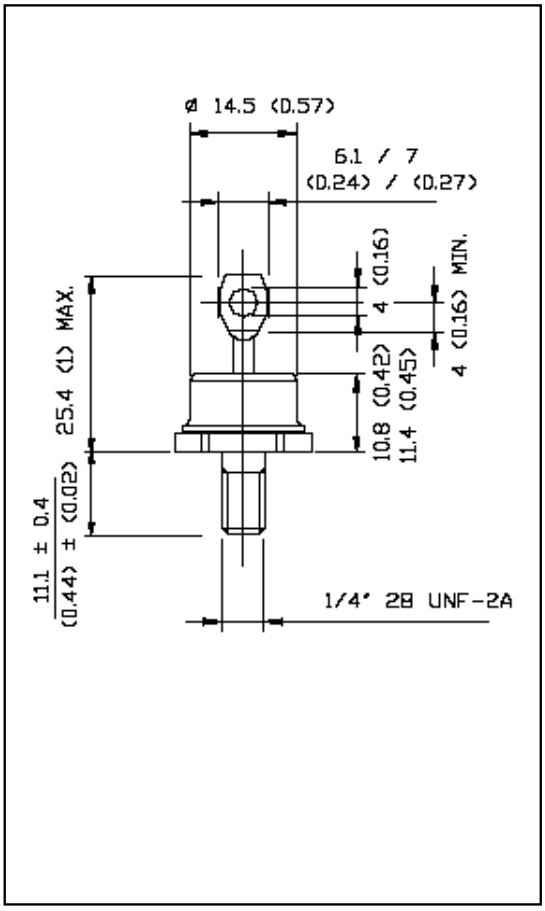
80A

Typical Applications

- Converters
- Power supplies
- Machine tool controls

Major Ratings and Characteristics

Parameters		85HF160	Units
$I_{F(AV)}$		80	A
	@ T_{hs}	125	°C
$I_{F(RMS)}$		240	A
I_{FSM}	@ 50Hz	300	A
	@ 60Hz	320	A
I^2t	@ 50Hz	450	A^2s
	@ 60Hz	430	A^2s
V_{RRM}	range	800	V
T_J	range	- 40 to 180	°C



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ELECTRICAL SPECIFICATIONS

Voltage Ratings

85HF160	Voltage Code	V_{RRM}, maximum repetitive peak reverse voltage V	V_{RSM}, maximum non-repetitive peak rev. voltage V	I_{RRM} max. @ $T_J = T_J$ max. mA
	16	1600	1700	9

Forward Conduction

Parameter		85HF	Units	Conditions	
$I_{F(AV)}$	Max. average forward current	80	A	180° conduction, half sine wave	
	@ Heatsink temperature	125	°C	Double side (single side) cooled	
$I_{F(RMS)}$	Max.RMS forward current	80	A		
I_{FSM},	Max. peak, one-cycle forward, non-repetitive surge current	370	A	t = 10ms	T_{VJ}=45℃
		400		t = 8.3ms	V_R=0
		300		t = 10ms	$T_{VJ}=T_{VJM}$
		320		t = 8.3ms	V_R=0
I^2t	Maximum I^2t for fusing	680	A^2s	t = 10ms	T_{VJ}=45℃
		660		t = 8.3ms	V_R=0
		450		t = 10ms	$T_{VJ}=T_{VJM}$
		430		t = 8.3ms	V_R=0
V_F		≤1.36	V	I_F= 55A, T_{VJ} = 25°C,	
$V_{F(TO)}$		0.85	V	For power-loss calculations only	
r_T		8	MΩ	$T_{VJ}=T_{VJM}$	

Thermal and Mechanical Specification

	Parameter	85HF160	Units	Conditions
T_J	Max.junction operating temperature range	-40 to 180	°C	
T_{stg}	Max. storage temperature range	-55 to 200		
R_{thJC}	Max,thermal resistance,junction to case	1.5	K/W	DC operation
R_{thCS}	Max. thermal resistance,Case to heatsink	2.1		DC operation single(double) side cooled
wt	Approximate weight		g	