



STANDARD RECOVERY DIODES 400 UM / UMR

FEATURES

- *Wide current range*
- *High voltage ratings upto 2400V*
- *Threaded studs M20 X 1.5P / 3/4"-16UNF-2A.*
- *High surge current capabilities*
- *Stud Cathode and stud anode version*

TYPICAL APPLICATIONS

- *High power drives*
- *Power supplies*
- *Converters*

MAJOR RATINGS & CHARACTERISTICS

Parameters	400UM/UMR	Units
$I_{T(AV)}$	400	A
@ T_c	120	°C
$I_{T(RMS)}$	630	A
I_{FSM} @ 50 Hz	8250	A
I^2t @ 50 Hz	340	KA ² s
V_{RRM} range	400 to 2400	V
T_j	-40 to 175	°C

SILICON RECTIFIERS

400UM/UMR

ELECTRICAL SPECIFICATION VOLTAGE RATINGS

Type Number	Voltage Code	V_{RRM} , max. repetitive peak reverse voltage V	V_{RSM} , max. non-repetitive peak reverse voltage V	I_{RRM} max. @ $T_J = T_J$ max. mA
400UM/UMR	40	400	500	20
	60	600	700	
	80	800	900	
	100	1000	1100	
	120	1200	1300	
	140	1400	1500	
	160	1600	1700	
	200	2000	2100	
	240	2400	2500	

FORWARD CONDUCTION

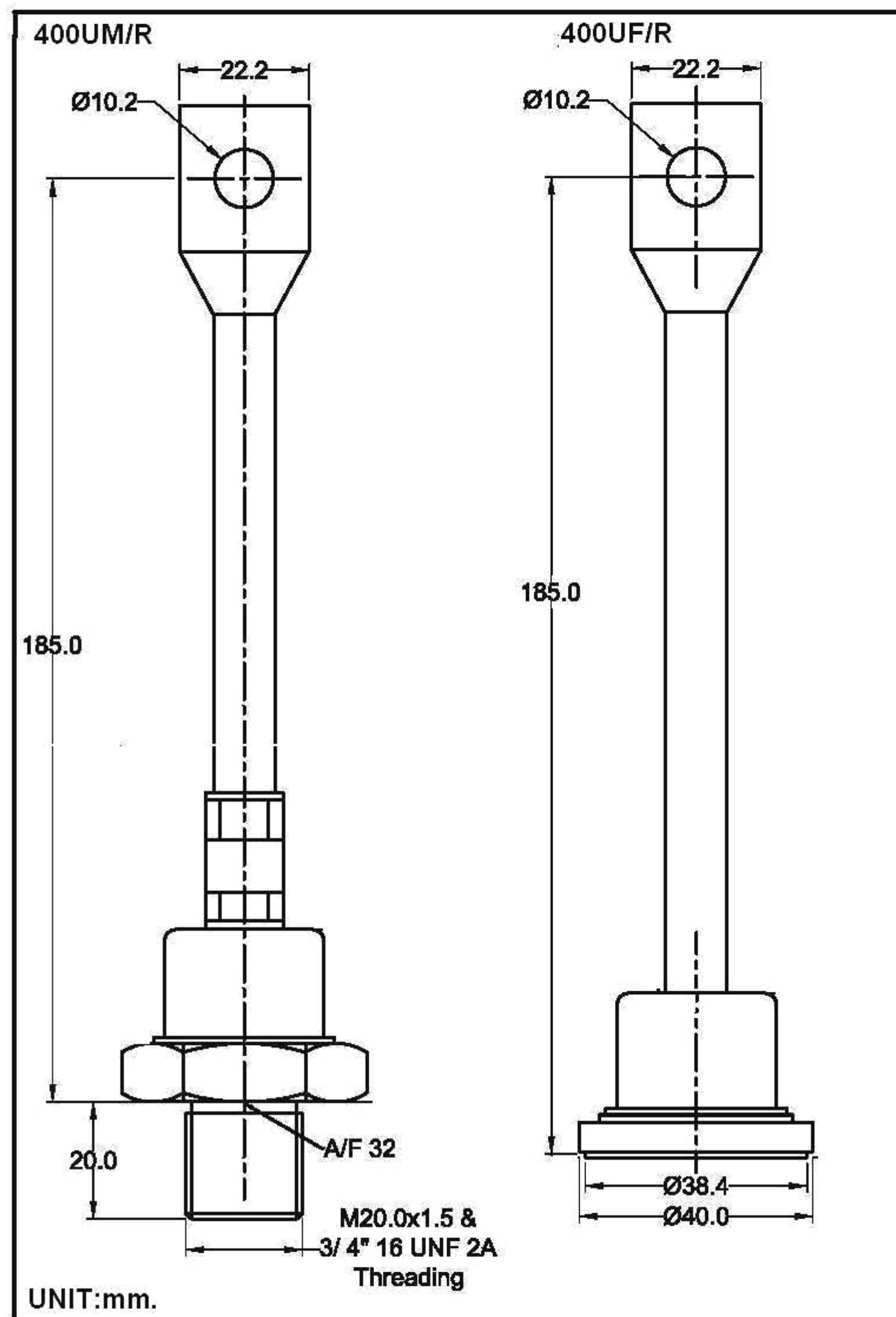
	Parameter	400UM/UMR	Units	Conditions
$I_{F(AV)}$	Max. average forward current @ case temperature	400	A	180° conduction, half sine wave
		120	°C	
$I_{F(RMS)}$	Max. RMS forward current	630	A	@ 120 Deg. C, Case temperature
I_{FSM}	Max. peak one-cycle forward non-repetitive surge current	8250	A	Initial $T_J = T_J$ max.
I^2t	Maximum I^2t for fusing	340	KA ² S	
$I^2\sqrt{t}$	Maximum $I^2\sqrt{t}$ for fusing	3400	kA ² √s	t = 0.1 to 10ms. No voltage reapplied.
$V_{F(TO)}$	Max. value of threshold voltage	0.80	V	$T_J = T_J$ max.
r_f	Max. value of forward slope resistance	0.55	mΩ	$T_J = T_J$ max.
V_{FM}	Max. forward voltage	1.62	V	$I_{pk} = 1500A$, $T_J = T_J$ max., $t_p = 10ms$ sine pulse

SILICON RECTIFIERS

400UM/UMR

THERMAL AND MECHANICAL SPECIFICATION

	Parameter	400UM/UMR	Units	Conditions
T_J	Max. operating temperature range	-40 to 175	°C	
T_{stg}	Max. storage temperature range	-55 to 200		
R_{thJC}	Max. thermal resistance, junction to case	0.11	K/W	DC operation
R_{thCS}	Max. thermal resistance, case to heat sink	0.04		Mounting surface, smooth, flat and greased
T	Mounting torque, $\pm 10\%$	27	Nm	Non lubricated threads
w t	Approximate weight	350	gm	



SILICON RECTIFIERS

ORDER INFORMATION TABLE

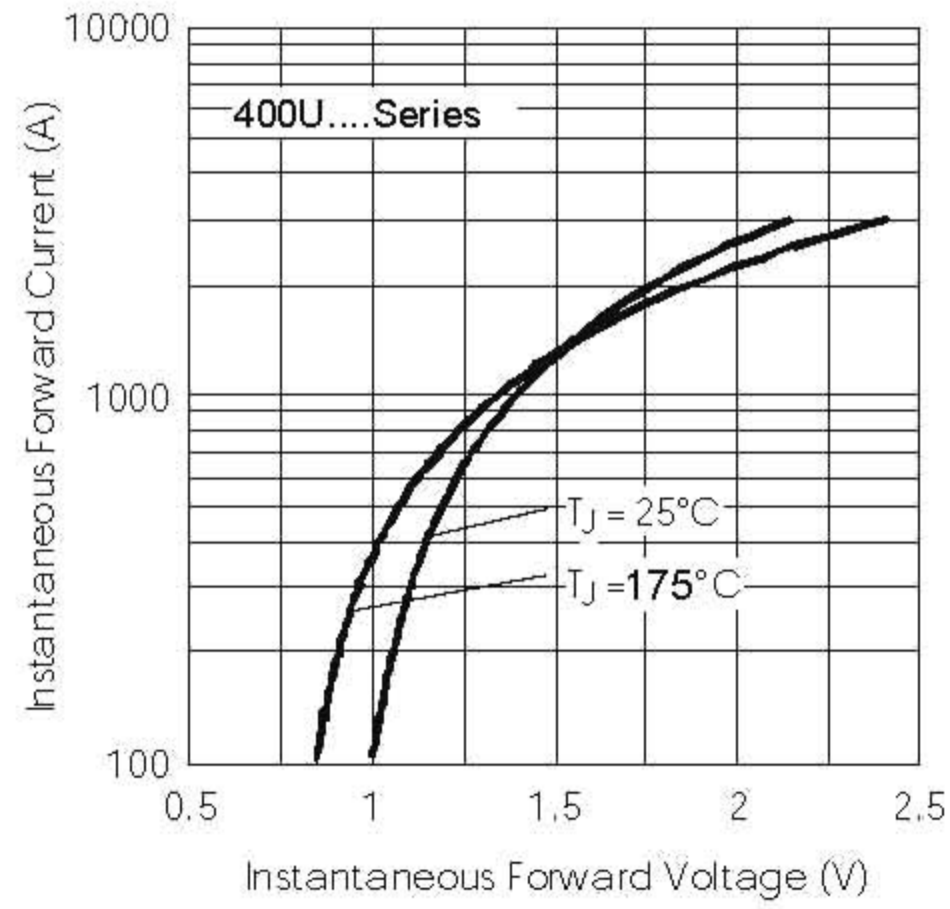
400 U	M	R	40
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① ② ③ ④

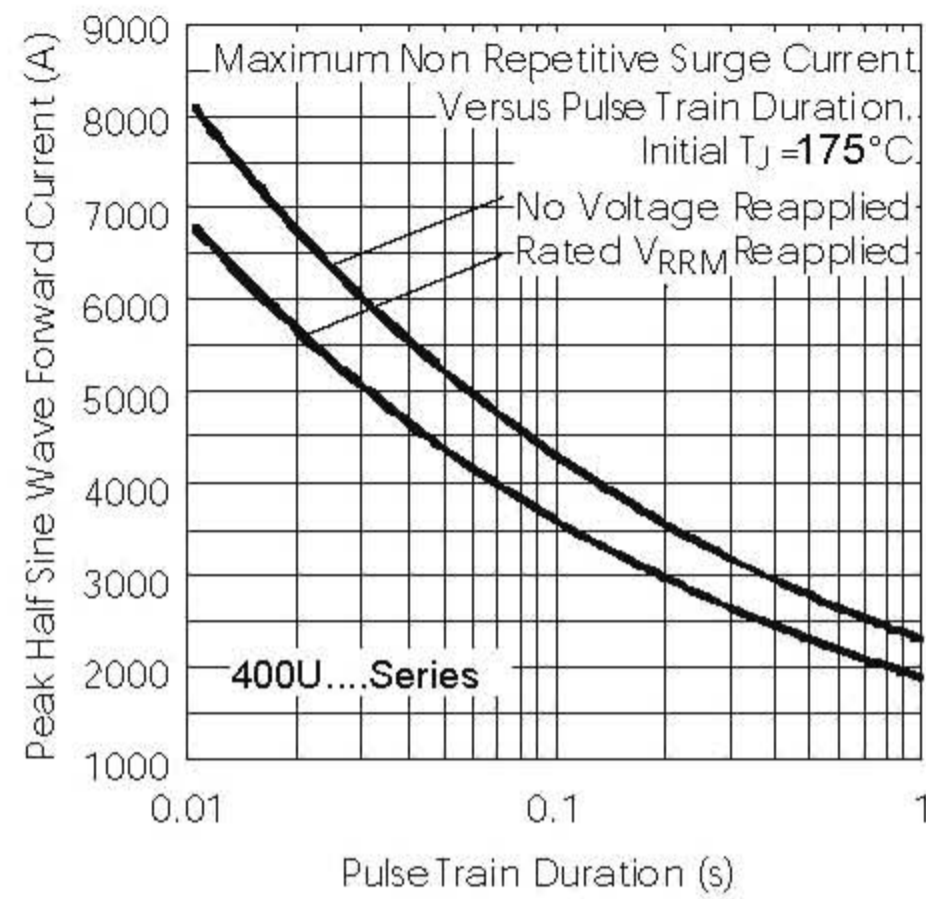
- ① - 400 U - Essential Part no.
- ② - None - Stud with 3/4" 16UNF-2A Threading
M - Stud with M20 x 1.5P Metric Threading
- ③ - None - Normal polarity
R - Reverse polarity
- ④ - Voltage Rating (See table)

SILICON RECTIFIERS

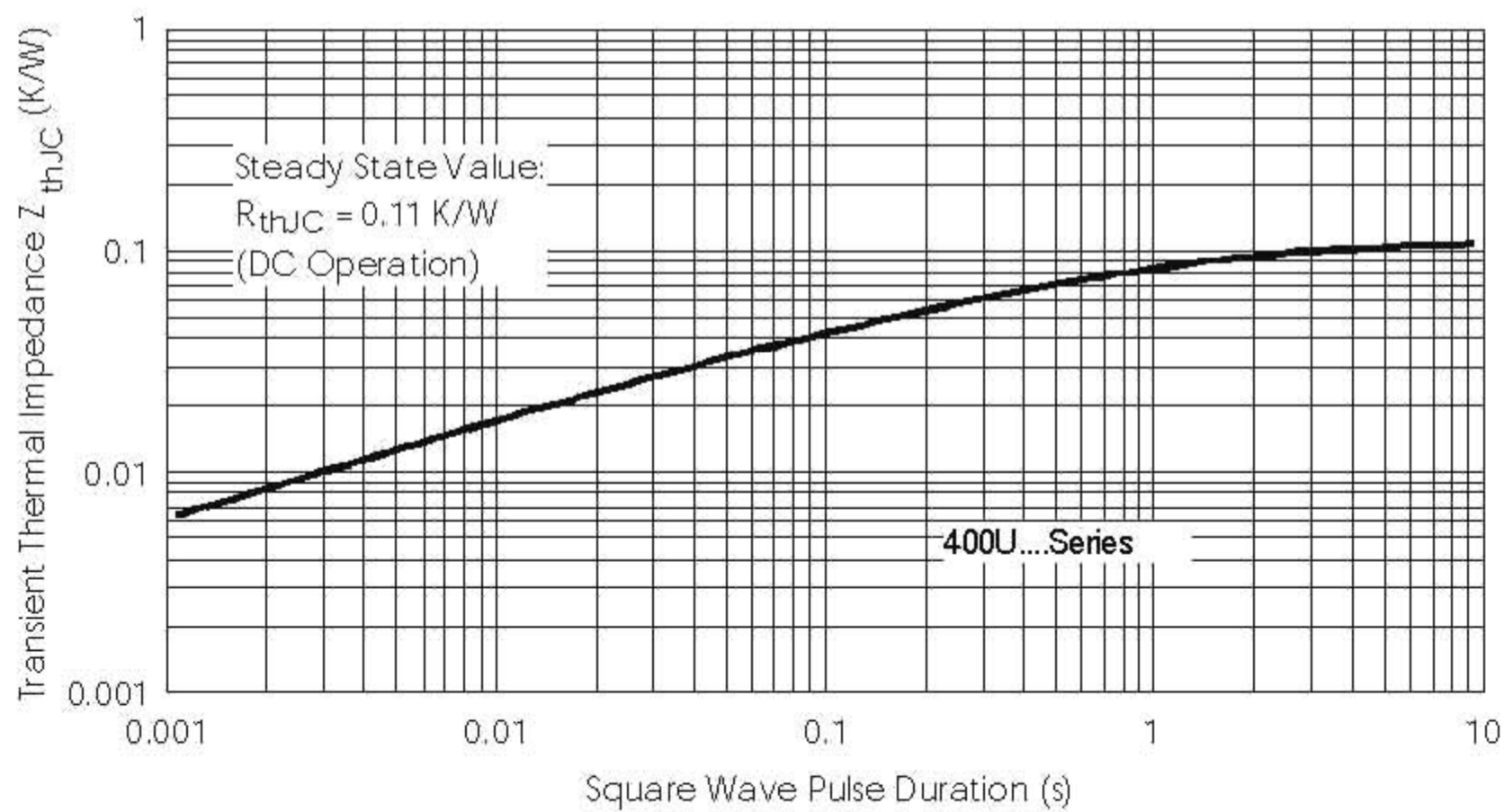
400UM/UMR



Forward Voltage Drop Characteristics



Maximum Non-Repetitive Surge Current



Thermal Impedance Z_{thJC} Characteristic