

STANDARD RECOVERY DIODES 450V SERIES

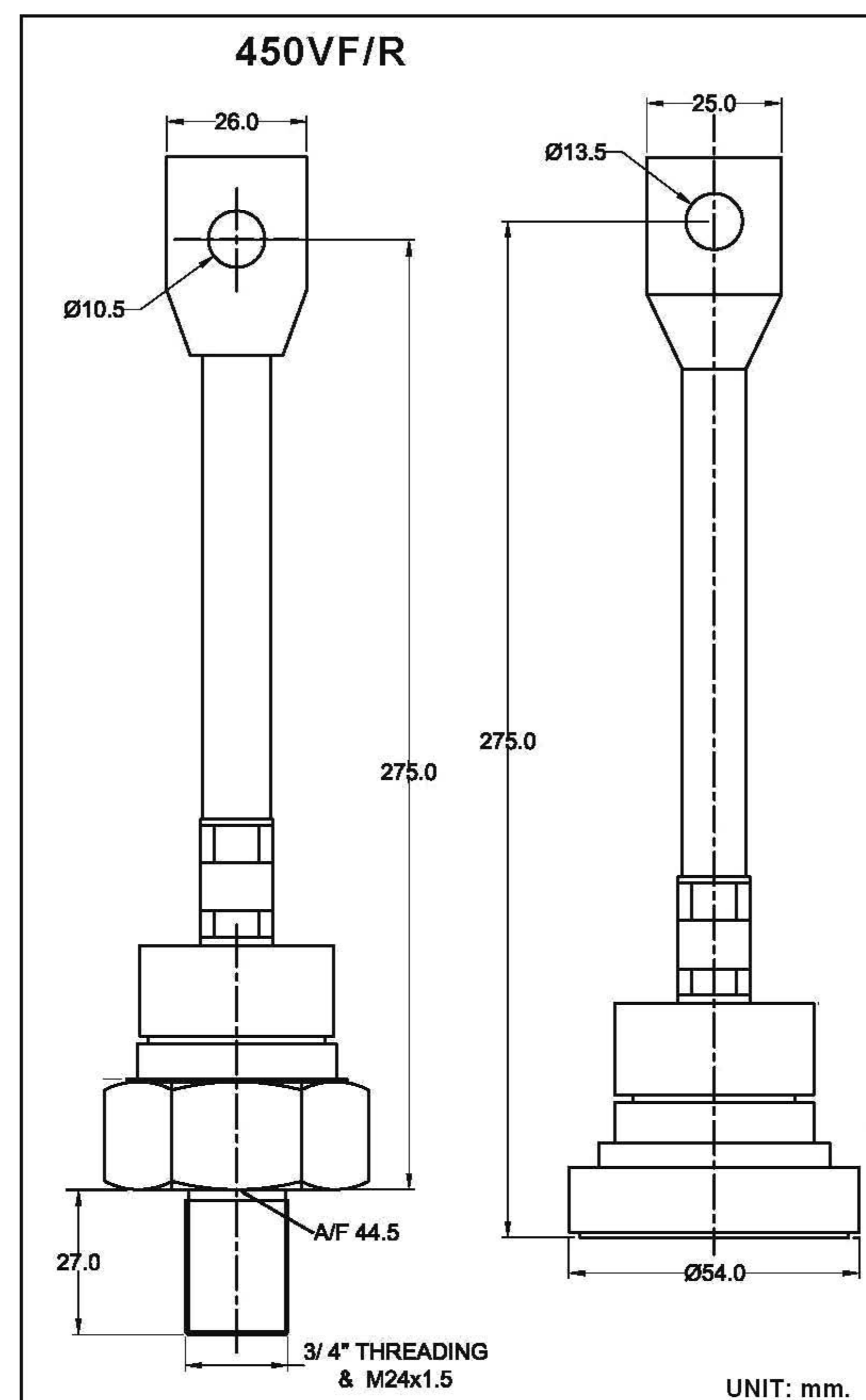
FEATURES

- ⌘ Wide current range
- ⌘ High voltage ratings upto 2000V
- ⌘ Threaded studs UNF 3/4 - 16UNF2A.
- ⌘ High surge current capabilities

TYPICAL APPLICATIONS

- ⌘ High power drives
- ⌘ Power supplies
- ⌘ Converters

OUTLINE DIAGRAM



MAJOR RATINGS & CHARACTERISTICS

Parameters	450V	Units
$I_{F(AV)}$	450	A
@ T_c	75	°C
$I_{F(RMS)}$	705	A
I_{FSM} @ 50 Hz	7500	A
I^2t @ 50 Hz	281	KA ² s
V_{RRM} range	200 to 2000	V
T_J	-40 to 175	°C

SILICON RECTIFIERS

450V SERIES

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
450V	20	200	300	35
	40	400	500	
	60	600	700	
	80	800	900	
	100	1000	1100	
	120	1200	1300	
	140	1400	1500	
	160	1600	1700	
	180	1800	1900	
	200	2000	2100	

FORWARD CONDUCTION

Parameter	450V	Units	Conditions
$I_{F(AV)}$ Max. average forward current @ case temperature	450	A	180° conduction, half sine wave
	75	°C	
$I_{F(RMS)}$ Max. RMS forward current	705	A	@ 75 Deg. C, Case temperature
I_{FSM} Max. peak one-cycle forward non-repetitive surge current	7500	A	t = 10ms
			Initial $T_J = T_J$ max.
I^2t Maximum I^2t for fusing	281	KA ² S	t = 10ms
$I^2\sqrt{t}$ Maximum $I^2\sqrt{t}$ for fusing	2810	kA ² √s	t = 0.1 to 10ms. No voltage reapplied.
$V_{F(TO)}$ Max, value of threshold voltage	0.88	V	$T_J = T_J$ max.
r_f Max, value of forward slop resistance	0.78	mΩ	$T_J = T_J$ max.
V_{FM} Max. forward voltage	1.66	V	$I_{pk} = 1000A$, $T_J = T_J$ max., $t_p = 10ms$ sine pulse

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THERMAL AND MECHANICAL SPECIFICATION

	Parameter	450V	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	Mounting surface, smooth, flat and greased
R_{thCS}	Max. thermal resistance, case to heat sink	0.04		
T	Mounting torque, ±10%	50	Nm	Non lubricated threads
w t	Approximate weight	600	gm	

ORDER INFORMATION TABLE

450 V	M/F	R	40
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③

④

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

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450V Series

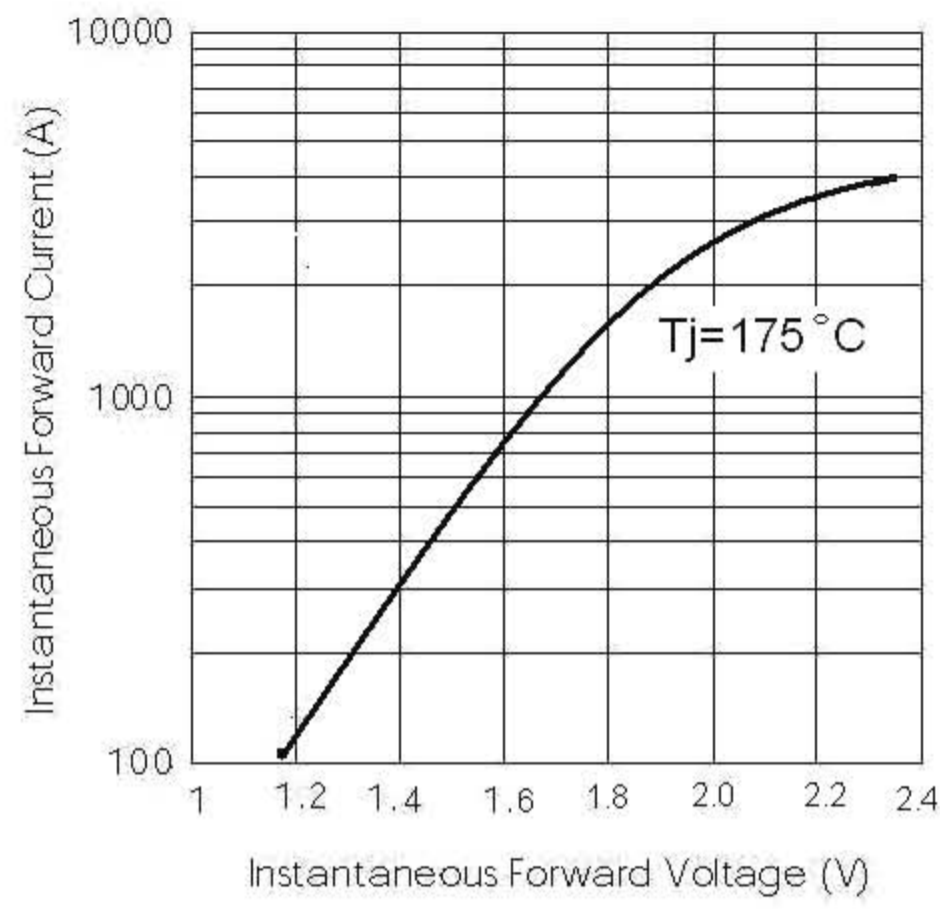
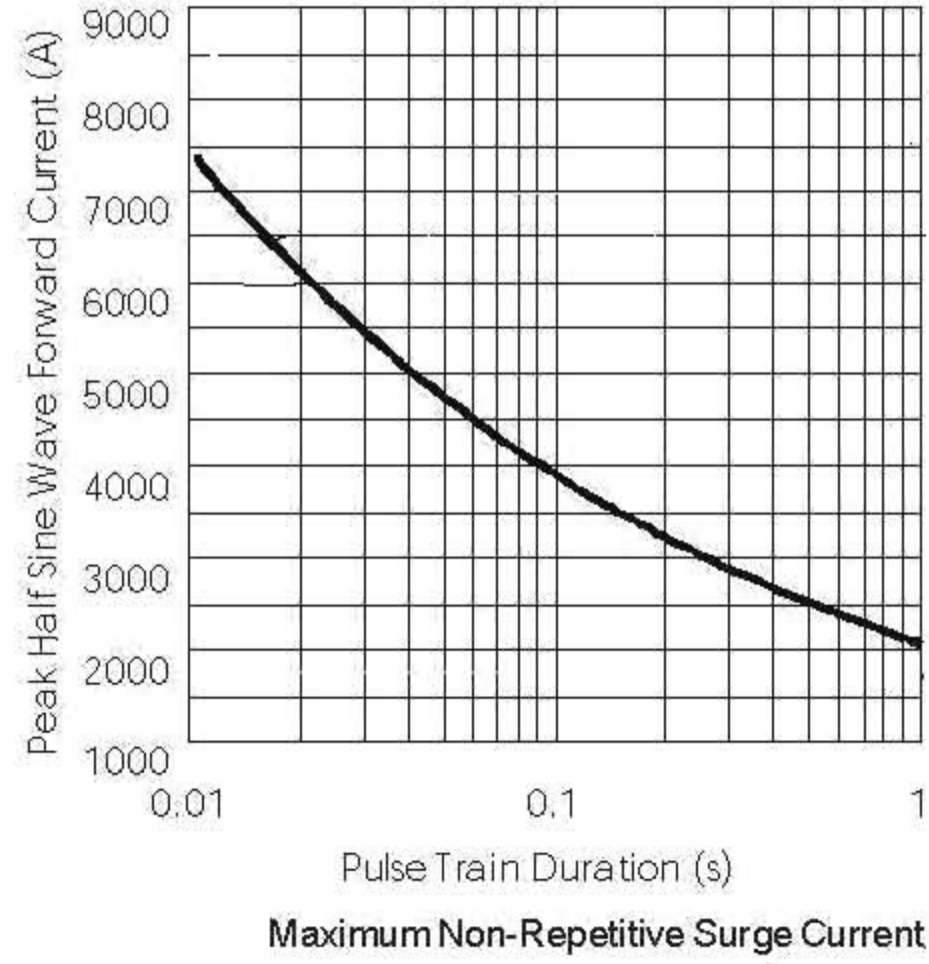


Fig. 7 - Forward Voltage Drop Characteristics

