

STANDARD RECOVERY DIODES 600V SERIES

FEATURES

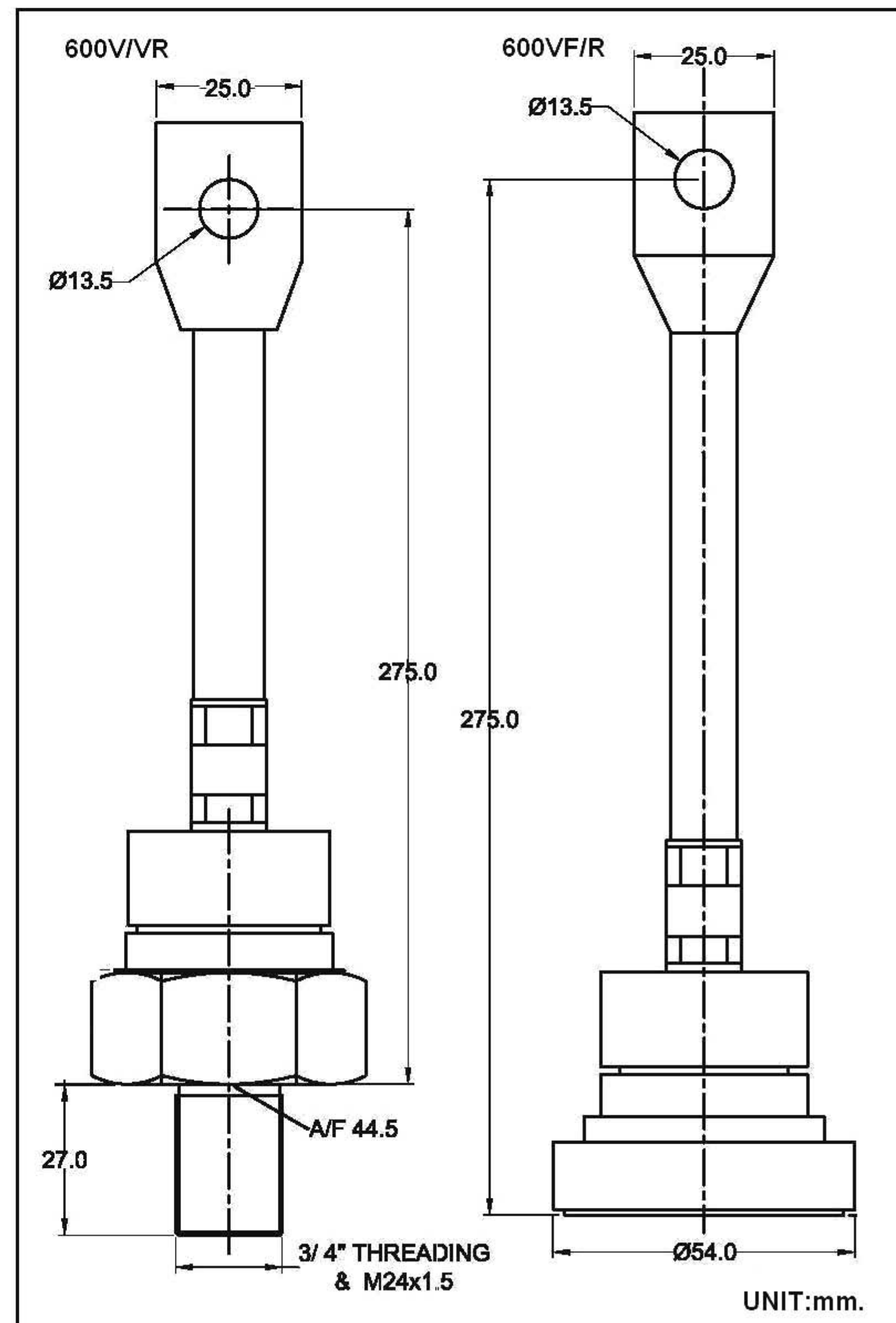
- € Wide current range
- € High voltage ratings upto 2000V
- € Threaded studs UNF 3/4 - 16UNF2A.
- € High surge current capabilities

TYPICAL APPLICATIONS

- € High power drives
- € Power supplies
- € Converters

MAJOR RATINGS & CHARACTERISTICS

Parameters	600V	Units
$I_{F(AV)}$	600	A
@ T_c	92	$^{\circ}C$
$I_{F(RMS)}$	940	A
I_{FSM} @ 50 Hz	13000	A
I^2t @ 50 Hz	845	KA ² s
V_{RRM} range	400 to 2000	V
T_J	-40 to 175	$^{\circ}C$



SILICON RECTIFIERS

600V 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
600V	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	600V	Units	Conditions
$I_{F(AV)}$ Max. average forward current @ case temperature	600	A	180° conduction, half sine wave
	92	°C	
$I_{F(RMS)}$ Max. RMS forward current	940	A	DC @ 75°C Case Temp.
I_{FSM} Max. peak one-cycle forward non-repetitive surge current	13000	A	t = 10ms
			Initial $T_J = T_J$ max.
I^2t Maximum I^2t for fusing	845	KA ² S	t = 10ms
$I^2\sqrt{t}$ Maximum $I^2\sqrt{t}$ for fusing	8450	kA ² √s	t = 0.1 to 10ms. No voltage reapplied.
$V_{F(TO)}$ Max. value of threshold voltage	0.78	V	$T_J = T_J$ max.
r_f Max. value of forward slop resistance	0.35	mΩ	$T_J = T_J$ max.
V_{FM} Max. forward voltage	1.31	V	$I_{pk} = 1500A$, $T_J = T_J$ max., $t_p = 10ms$ sine pulse

SILICON RECTIFIERS

600V SERIES

THERMAL AND MECHANICAL SPECIFICATION

	Parameter	600V	Units	Conditions
T_J	Max. operating temperature range	-40 to 175	°C	
T_{stg}	Max. storage temperature range	-40 to 200		
R_{thJC}	Max. thermal resistance, junction to case	0.1	K/W	DC operation
R_{thCS}	Max. thermal resistance, case to heat sink	0.04		Mounting surface, smooth, flat and greased
T	Mounting torque, $\pm 10\%$	50	Nm	Non lubricated threads
w t	Approximate weight	700	gm	

SILICON RECTIFIERS

ORDER INFORMATION TABLE

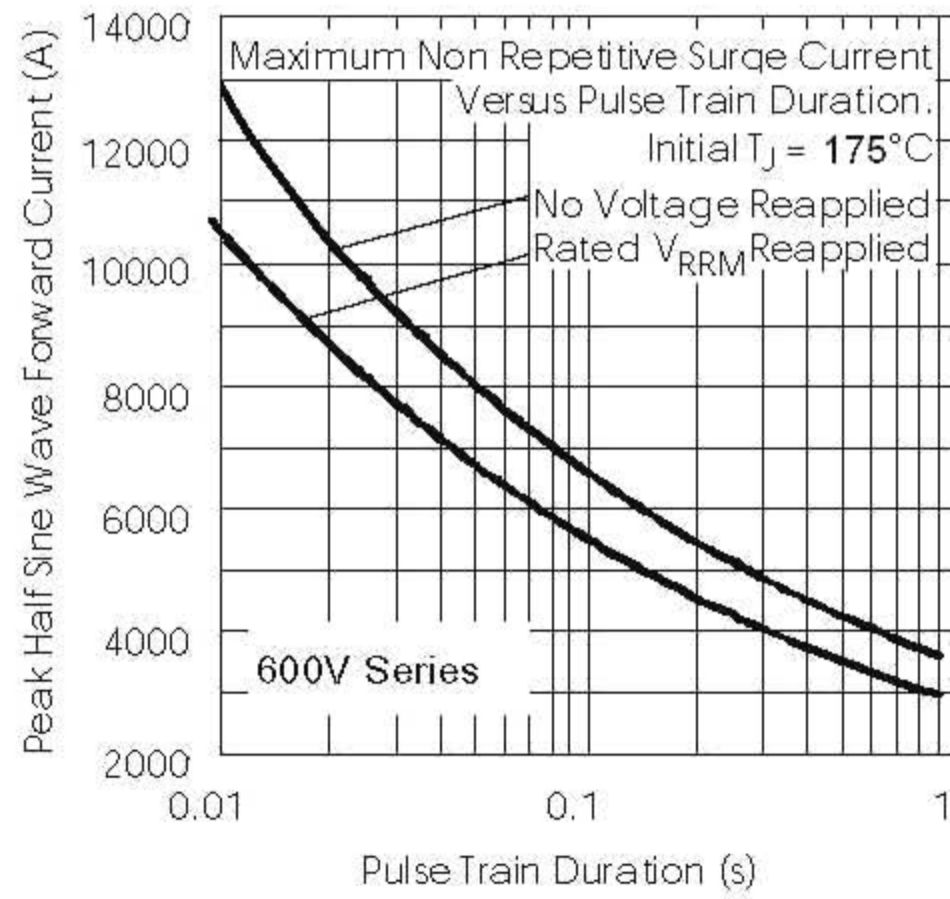
600 V	M/F	R	40
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① ② ③ ④

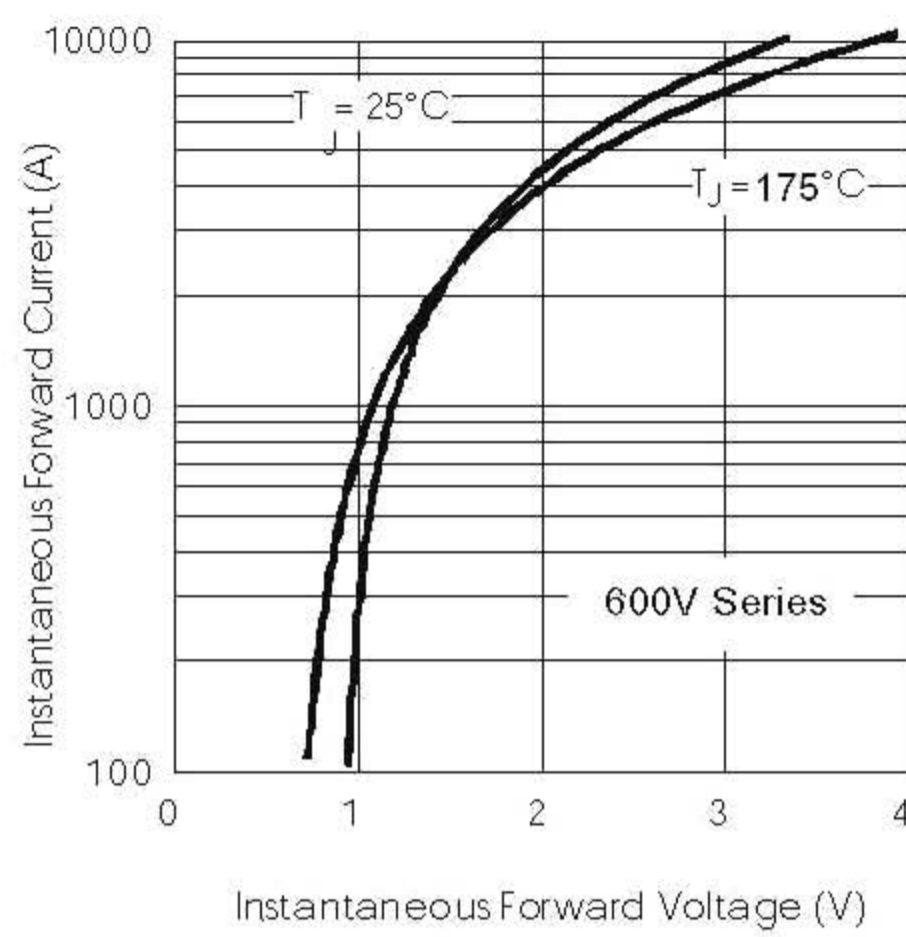
- ① - 600 V - Essential Part no.
- ② - None - Stud with 3/4" 16UNF-2A Threading
M - Stud with M20 x 1.5P Metric Threading
- ③ - None - Normal polarity
R - Reverse polarity
- ④ - Voltage Rating (See table)

SILICON RECTIFIERS

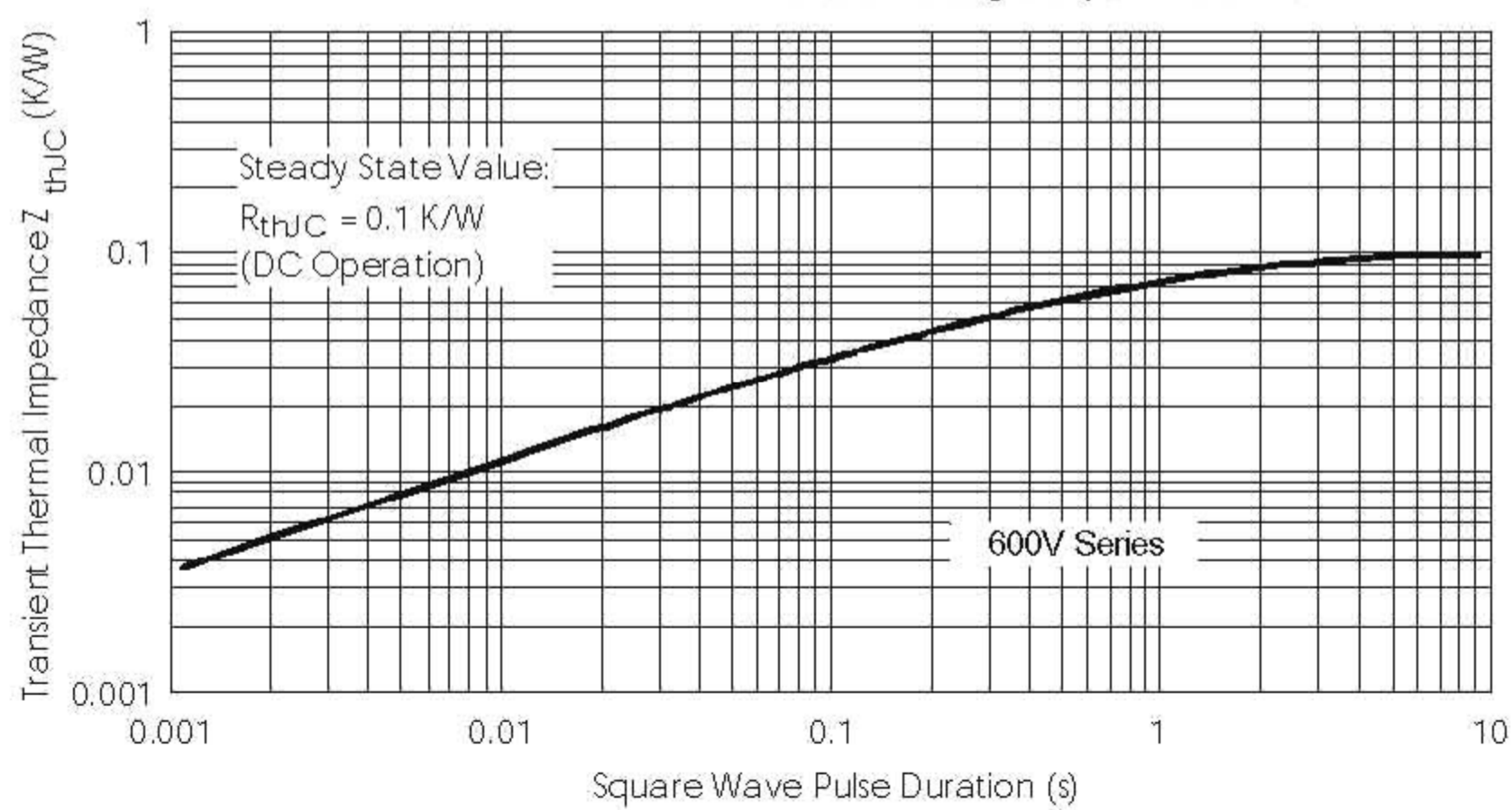
600V SERIES



Maximum Non-Repetitive Surge Current



Forward Voltage Drop Characteristics



Thermal Impedance Z_{thJC} Characteristics