

PHASE CONTROL THYRISTOR

Unit in mm

SF16Q13

1200V 16A

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage	SF16B13	100	V
	SF16D13	200	
	SF16F13	300	
	SF16G13	400	
	SF16J13	600	
	SF16L13	800	
	SF16N13	1000	
Non-Repetitive Peak Reverse Voltage (Non-Rep <5ms) $T_j = 0 \sim 125^\circ\text{C}$	SF16Q13	1200	V
	SF16B13	150	
	SF16D13	300	
	SF16F13	400	
	SF16G13	500	
	SF16J13	720	
	SF16L13	960	
Average On-State Current (Half Sine Waveform)	SF16N13	1200	A
	SF16Q13	1440	
	SF16B13	150	
	SF16D13	300	
	SF16F13	400	
	SF16G13	500	
	SF16J13	720	
R.M.S. On-State Current	$I_T(\text{RMS})$	25	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	220(60Hz)	A
		200(50Hz)	
Peak Gate Power Dissipation	P_{GM}	5	W
Average Gate Power Dissipation	$P_{\text{G(AV)}}$	0.5	W
Peak Forward Gate Current	I_{GM}	2	A
Peak Forward Gate Voltage	V_{FGM}	10	V
Peak Reverse Gate Voltage	V_{RGM}	-5	V
Junction Temperature	T_j	-65~125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65~150	$^\circ\text{C}$
Stud Torque *		30	kg cm

* Recommended Stud Torque 20~25kgcm

ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	CONDITION	MIN.	MAX.	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	SF16B13	$V_{\text{DRM}} = V_{\text{RRM}} = \text{Rated}$ $T_j = 125^\circ\text{C}$	—	6	mA
	SF16D13			6	
	SF16F13			6	
	SF16G13			6	
	SF16J13			6	
	SF16L13			4	
	SF16N13			3	
Peak On-State Voltage	V_{TM}	$I_{\text{TM}} = 50\text{A}$, $T_c = 25^\circ\text{C}$	—	1.95	V
Gate Trigger Voltage	V_{GT}	$V_D = 6\text{V}$, $R_L = 6\Omega$	—	3	V
				3	
Gate Trigger Current	I_{GT}	$V_D = 6\text{V}$, $R_L = 6\Omega$	—	80	mA
				40	
Gate Non-Trigger Voltage	V_{GD}	$V_D = 0.5\text{Rated}$, $T_c = 125^\circ\text{C}$	0.15	—	V
Gate Non-Trigger Current	I_{GD}	$V_D = 0.5\text{Rated}$, $T_c = 125^\circ\text{C}$	0.5	—	mA
Holding Current	I_{H}	$T_c = 25^\circ\text{C}$, $R_L = 100\Omega$	—	50	mA
Thermal Resistance *	$R_{\text{th(j-c)}}$	DC	—	2	$^\circ\text{C/W}$

* Junction to Case

GATE TRIGGERING CHARACTERISTICS

