

SF400U26

1600V 400A

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage	SF400G26	400	V
	SF400J 26	600	
	SF400L26	800	
	SF400N26	1000	
	SF400Q26	1200	
	SF400R26	1300	
	SF400U26	1600	
Non-Repetitive Peak Reverse Voltage (Non-Rep <5ms)	SF400G26	500	V
	SF400J 26	720	
	SF400L26	960	
	SF400N26	1200	
	SF400Q26	1450	
	SF400R26	1500	
	SF400U26	1850	
R.M.S On-State Current	$I_T(\text{RMS})$	628	A
Average On-State Current (Half Sine Waveform $T_c=35^\circ\text{C}$)	$I_T(\text{AV})$	400	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	7000(50Hz)	A
		7300(60Hz)	
I^2t Limit Value	I^2t	245×10^3	A^2s
Critical Rate of Rise of On-State Current (Note1)	di/dt	100	$\text{A}/\mu\text{s}$
Peak Gate Power Dissipation	P_{GM}	16	W
Average Gate Power Dissipation	$P_{\text{G(AV)}}$	3	W
Peak Forward Gate Current	I_{GM}	4	A
Peak Forward Gate Voltage	V_{FGM}	16	V
Peak Reverse Gate Voltage	V_{RGM}	-5	V
Junction Temperature	T_j	$-40 \sim 125$	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	$-40 \sim 125$	$^\circ\text{C}$
Mounting Force Required (Note 2)	—	900~1100	kg

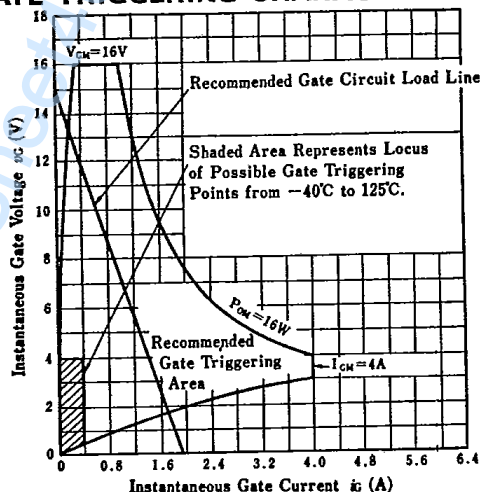
Note 1: $V_D=0.5\text{Rated}$, $T_c=120^\circ\text{C}$, $I_{\text{TM}}=800\text{A}$, Gate Supply ($V_G=15\text{V}$, $R_G=8\Omega$, $t_r \leq 1\mu\text{s}$)Note 2: Recommended value; $1000 \pm 50\text{kg}$

ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	CONDITION	MIN.	MAX.	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I_{DRM} and I_{RRM}	$V_{\text{DRM}}=V_{\text{RRM}}=\text{Rated}$ $T_j=125^\circ\text{C}$	—	20	mA
Peak On-State Voltage	V_{TM}	$I_{\text{TM}}=1250\text{A}$, $T_c=25^\circ\text{C}$	—	1.80	V
Gate Trigger Voltage	V_{GT}	$V_D=6\text{V}$, $R_L=6\Omega$	$T_c=-40^\circ\text{C}$	4.5	V
			$T_c=25^\circ\text{C}$	3.5	V
			$T_c=-40^\circ\text{C}$	400	mA
			$T_c=25^\circ\text{C}$	260	mA
Gate Trigger Current	I_{GT}		—	260	mA
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}	$V_D=0.5\text{Rated}$, $T_c=125^\circ\text{C}$	1.5	—	mA
Delay Time	t_d	$V_D=0.5\text{Rated}$, $T_c=25^\circ\text{C}$	—	4	μs
Turn-On Time	t_{gt}	Gate Supply ($V_G=15\text{V}$, $R_G=8\Omega$, $t_r \leq 1\mu\text{s}$)	—	6	μs
Turn-Off Time	t_q	$I_T=800\text{A}$, $V_R \geq 50\text{V}$, $dv/dt=20\text{V}/\mu\text{s}$, $V_D=0.5\text{Rated}$, $T_c=120^\circ\text{C}$	—	150(Typ.)	μs
Critical Rate of Rise of Off-State Voltage	dv/dt	$V_{\text{DRM}}=2/3\text{Rated}$, $T_j=125^\circ\text{C}$, Gate open, Exponential rise	200	—	$\text{V}/\mu\text{s}$
Holding Current	I_{H}	$R_L=6\Omega$, $T_c=25^\circ\text{C}$	—	300	mA
Thermal Resistance *	$R_{\text{th(j-f)}}$	DC	—	0.05	$^\circ\text{C}/\text{W}$

* Junction to Fin

GATE TRIGGERING CHARACTERISTICS

 $T_f \text{ MAX} - I_T(\text{AV})$ 