

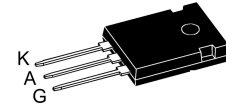
S10060-16 100A SCRs

FEATURES

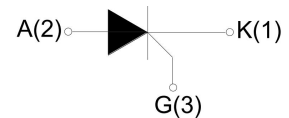
- High thermal cycling performance
- High voltage capacity
- Very high current surge capability

APPLICATIONS

- Line rectifying 50/60 Hz
- Softstart AC motor control
- DC Motor control
- Power converter
- AC power control
- Lighting and temperature control



TO-247PULS



Parameters Summary

VD/VR:1600V

IT(AV):100A

IGT :60mA

ABSOLUTE MAXIMUM RATINGS			
Parameter	Symbol	Value	Unit
Storage junction temperature range	Tstg	-40 ~150	°C
Operating junction temperature range	Tj	-40~150	°C
Repetitive peak off-state voltage (T =25°C)	V _{DRM}	1200/1600	V
Repetitive peak reverse voltage (T =25°C)	V _{RRM}	1200/1600	V
Non repetitive surge peak Off-state voltage	V _{DSM}	V _{DRM} +100	V
Non repetitive peak reverse voltage	V _{RSM}	V _{RRM} +100	V
RMS on-state current (T =100°C)	I _{T(RMS)}	150	A
Average on-state current (180° conduction angle)	I _{T(AV)}	100	A
Non repetitive surge peak on-state current	I _{TSM}	1150	A
I ² t value for fusing (tp=10ms)	I ² t	6600	A ² S
Critical rate of rise of on-state current t(I =2×IGT, tr ≤ 100 ns)	di/dt	150	A/μS
Peak gate current	I _{GM}	8	A
Average gate power dissipation	P _{G(AV)}	1	W

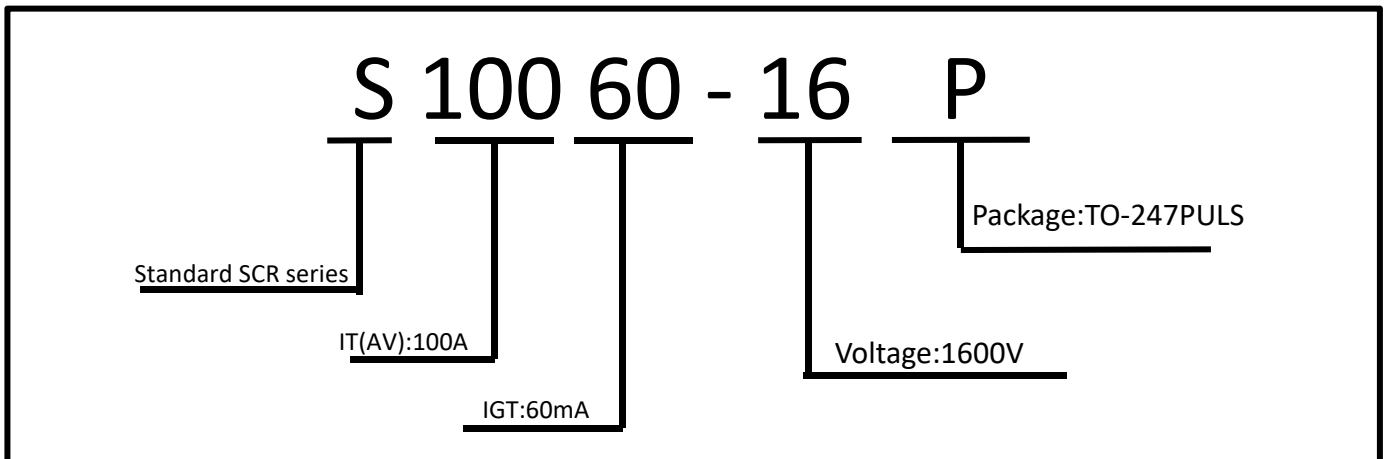
Thermal Resistances

Symbol	Parameter	Value	Unit
Rth(j-c)	Junction to case (DC)	TO-247S 0.20	°C/W

ELECTRICAL CHARACTERISTICS (T=25°C unless otherwise specified)					
Symbol	Test Condition	Value			Unit
		Min.	Typ.	Max.	
I_{GT}	V = 12V	20	40	60	mA
V_{GT}		-		1.5	V
V_{GD}	$V_D = V_{DRM}$ Tj=125°C	0.2			V
I_L	$I_G = 1.2I_{GT}$ Tj=25°C			350	mA
I_H	IT=500mA			250	mA
dV/dt	$V_D = 2/3V_{DRM}$ Gate Open Tj=125°C	2000			V/μs

STATIC CHARACTERISTICS				
Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	ITM = 100A tp=380μs	Tj = 25°C	1.37	V
I_{DRM}	$V_D = V_{DRM}$ $V_R = V_{RRM}$	Tj = 25°C	100	μA
I_{RRM}		Tj = 125°C	10	mA

Ordering Information Scheme



TO-247PULS Package Mechanical Data

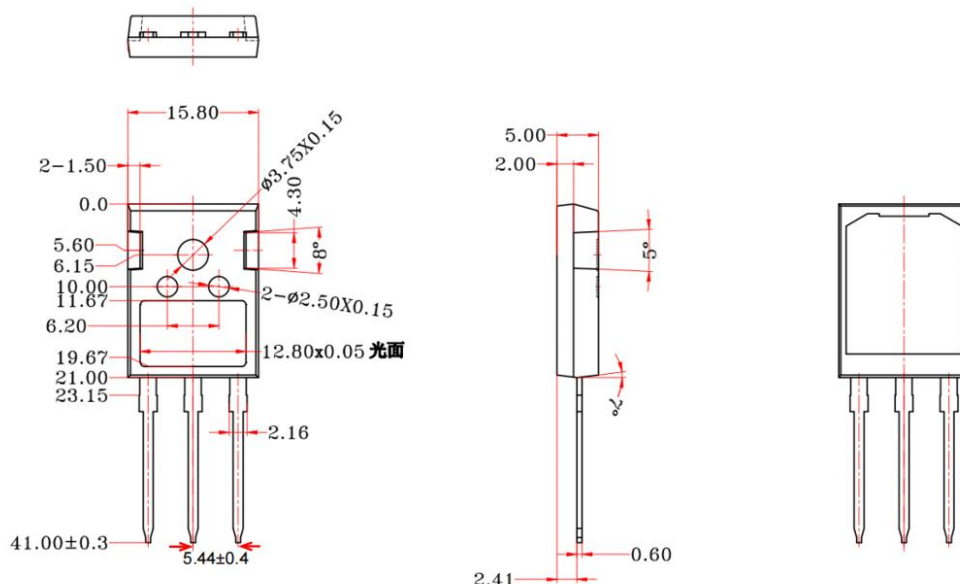


FIG.1 Maximum power dissipation versus on-state current

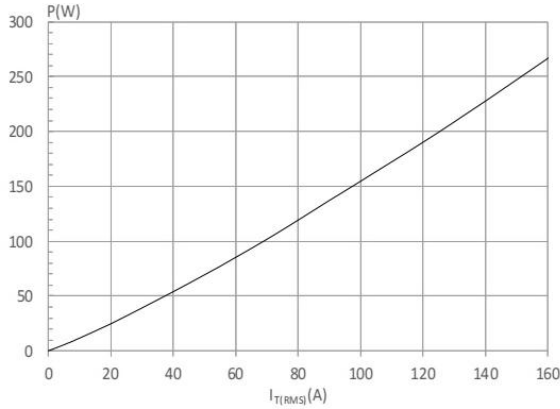


FIG.2: Average on-state current versus case temperature

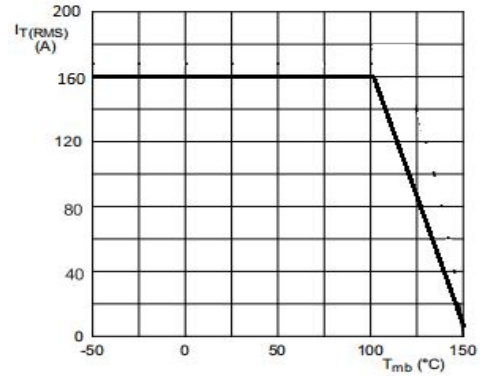


FIG.3: Surge peak on-state current versus number of cycles

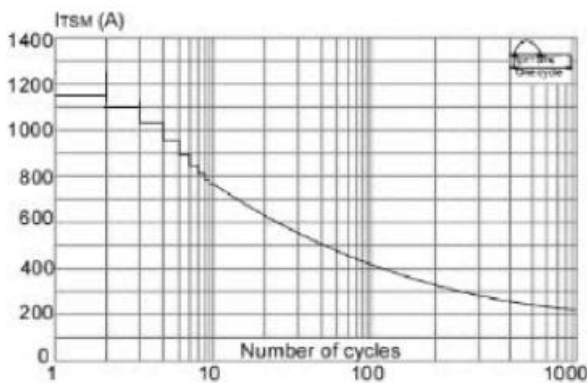


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of $I_2 t$ ($di/dt < 50\text{A}/\mu\text{s}$)

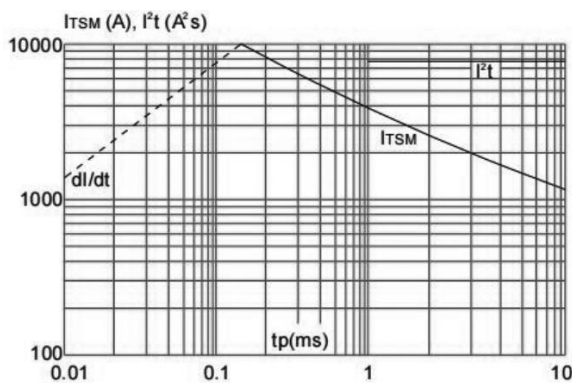


FIG.4: On-state characteristics (maximum values)

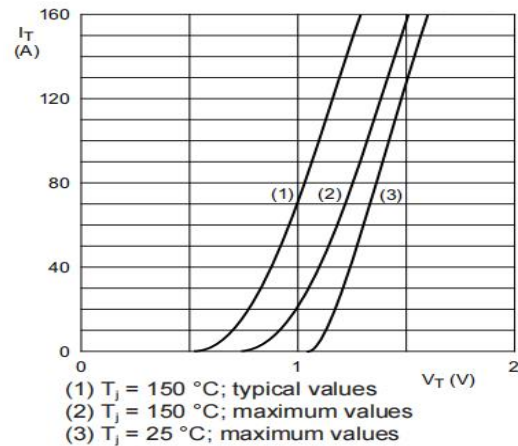


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature

