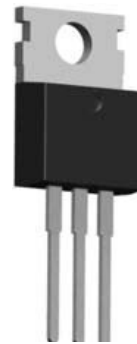


**YAREN STANDARD 25A SCRs**
**General Description**

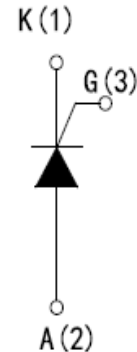
High current density due to mesa technology.  
 These series of silicon controlled rectifiers are specifically Designed for medium power switching and phase control Applications.  
 These series are suitable for general purpose Applications a high gate sensitivity is required.  
 YR1625 series provides a 2500V RMS isolation voltage From all three terminals to external heatsink

**Features**

- $I_T(\text{RMS})=25\text{A}$
- $I_{GT}\leq 50\text{mA}$
- $V_{TM}\leq 1.6\text{V}$



1 2 3

**To-220 Top View**

**Schematic Diagram**
 **$V_{DRM} = 1600\text{ V}$** 
 **$I_T(\text{RMS}) = 25\text{A}$** 
 **$I_{GT} \leq 50\text{mA}$** 
**Package Marking and Ordering Information**

Device Marking	Device	Device Package	Reel Size	Tape width	Quantity
YR1625	YR1625	T0-220CE	-	-	-

**Absolute Maximum Ratings (TA=25°C unless otherwise noted)**

Symbol	Parameter	Value	Unit
VDRM	Repetitive peak off-state voltage Tj=25°C	1600	V
VRRM	Repetitive peak Reverse voltage Tj=25°C	1600	V
IT(RMS)	RMS on-state current (half sine wave) TC=83°C	25	A
IT(AV)	Average on-state current (half sine wave) TC=83°C	16	A
ITSM	Non repetitive surge peak On-state current (half sine Cycle Tj=25°C) f=50Hz t=10ms	300	A
IGM	Peak gate current tp=20us Tj=125°C	4	A
PGM	Peak gate power tp=20us Tj=125°C	5	W
PG(AV)	Average gate power dissipation Tj=125°C	1	W
I2t	I2t Value for for fusing	450	A2s
Tstg	Storage junction temperature range	-50 To 150	°C
TJ	Operating Junction Temperature Range	-55 To 175	°C

**Thermal Resistances**

Symbol	Parameter	Value	Unit
Rth(j-c)	Junction to case(DC)	2.0	°C/W
Rth(j-a)	Junction-to-Ambient(DC)	60	°C/W

**Electrical Characteristics (TA=25°C unless otherwise noted)**

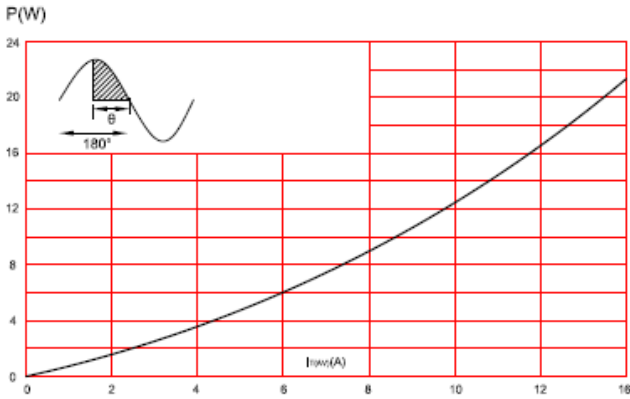
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
IGT	Gate trigger current	VD=12V RL=33Ω		25		mA
VGT	Gate trigger Voltage	VD=12V RL=33Ω		0.85	1	V
VGD		VD=VDRM RL=3.3KΩ TJ=125°C			0.2	V
IL	Latching current	IG=1.2IGT		45	90	mA
IH	Holding current	I <sub>t</sub> =500mA		25	50	mA
Dv/dt	Critical rate of rise of off-state voltage	VD=67%VDRM gate 0pen TJ=125°C	1500			V/us

**Static Characteristics**

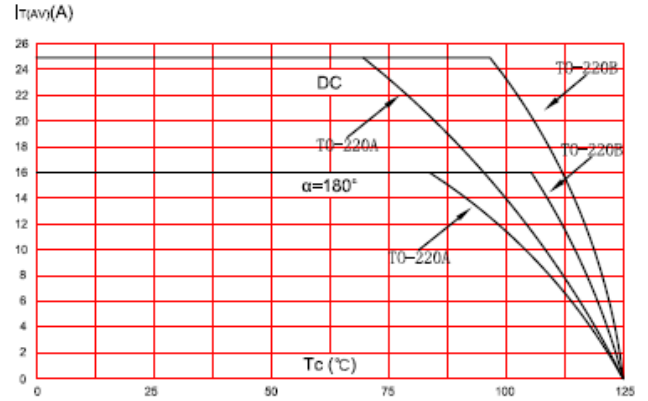
VTM	On-state Voltage	ITM=50A TP=380us TJ=25°C			1.6	V
IDRM	Off-state leakage current	VD=VDRM TJ=25°C			5	uA
IDRM	Off-state leakage current	VD=VDRM TJ=125°C			4	mA
IRRM	Off-state leakage current	VR=VRRM TJ=25°C			5	uA
IRRM	Off-state leakage current	VR=VRRM TJ=125°C			4	mA

**Characteristics Curve:**

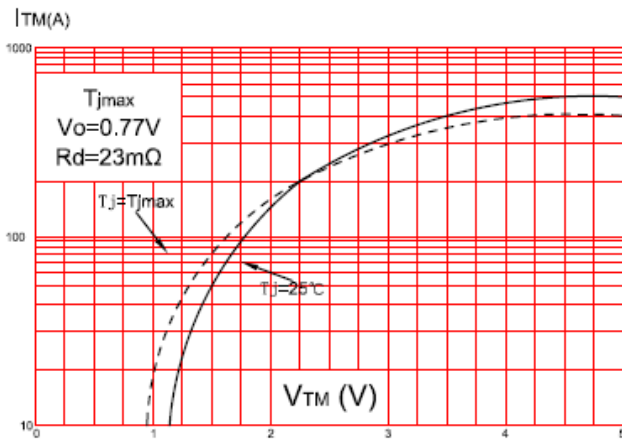
**FIG.1: Maximum power dissipation versus average on-state current(half cycle)**



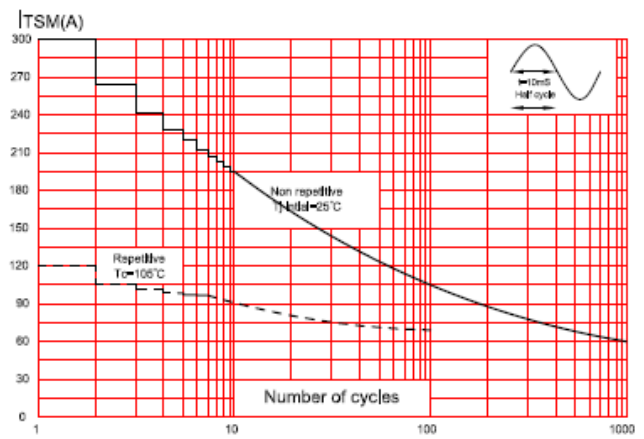
**FIG.2: RMS on-state current versus case temperature(full cycle)**



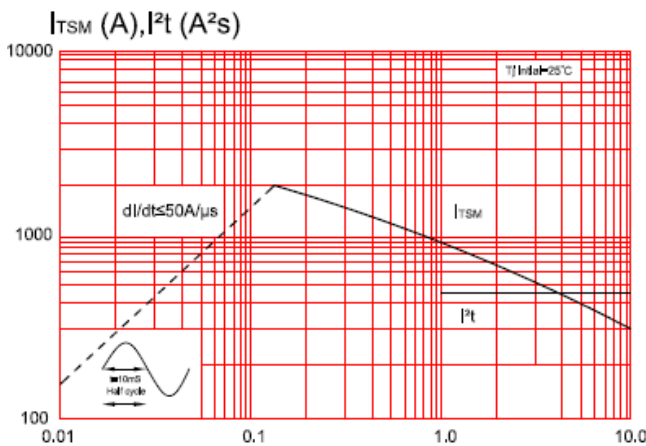
**FIG.3: On-state characteristics (maximum values).**



**FIG.4: Surge peak on-state current versus number of cycles.**



**FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<10ms, and corresponding value of I²t.**



**FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature(typical values)**

