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Renesas Electronics website: http://www.renesas.com

April 1<sup>st</sup>, 2010 Renesas Electronics Corporation

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Thyristor Medium Power Use

> REJ03G1716-0100 Rev.1.00 Jul 08, 2008

## Features

- I<sub>T (AV)</sub>: 25 A
- V<sub>DRM</sub> : 600 V
- I<sub>GT</sub> : 30 mA
- Viso : 2000 V

## Outline

RENESAS Package code: PRSS0003ZA-A (Package name: TO-3PFM) 1 Cathode 2 Anode 3 Gate 1

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Insulated Type

Planar Passivation Type

temperature of 150°C

The product guaranteed maximum junction

## Applications

Switching mode power supply, motor control, heater control, and other general purpose control applications

## **Maximum Ratings**

Barameter	Symbol	Voltage class	Unit	
Falameter	Symbol	12	Onit	
Repetitive peak reverse voltage	V <sub>RRM</sub>	600	V	
Non-repetitive peak reverse voltage	V <sub>RSM</sub>	720	V	
DC reverse voltage	V <sub>R (DC)</sub>	480	V	
Repetitive peak off-state voltage	V <sub>DRM</sub>	600	V	
DC off-state voltage	V <sub>D</sub> (DC)	480	V	

### CR25RM-12D

Parameter	Symbol	Ratings	Unit	Conditions
RMS on-state current	I <sub>T (RMS)</sub>	39.3	А	
Average on-state current	I <sub>T (AV)</sub>	25	A	Commercial frequency, sine half wave 180° conduction, Tc = 61°C
Surge on-state current	I <sub>TSM</sub>	360	A	50 Hz sine half wave 1 full cycle, peak value, non-repetitive
I <sup>2</sup> t for fusing	l <sup>2</sup> t	648	A <sup>2</sup> s	Value corresponding to 1 cycle of half wave 50 Hz, surge on-state current
Peak gate power dissipation	P <sub>GM</sub>	5	W	
Average gate power dissipation	P <sub>G (AV)</sub>	0.5	W	
Peak gate forward voltage	V <sub>FGM</sub>	6	V	
Peak gate reverse voltage	V <sub>RGM</sub>	10	V	
Peak gate forward current	I <sub>FGM</sub>	2	Α	
Junction temperature	Tj	- 40 to +150	°C	
Storage temperature	Tstg	- 40 to +150	°C	
Mass		5.2	g	Typical value
Isolation voltage	Viso	2000	V	Ta = $25^{\circ}$ C, AC 1 minute, each terminal to case

## **Electrical Characteristics**

Parameter	Symbol	Min.	Тур.	Max.	Unit	Test conditions
Repetitive peak reverse current	I <sub>RRM</sub>	—	—	2.0/5.0	mA	Tj = 125°C/150°C, V <sub>RRM</sub> applied
Repetitive peak off-state	I <sub>DRM</sub>	—	—	2.0/5.0	mA	Tj = 125°C/150°C, V <sub>DRM</sub> applied
current						
On-state voltage	V <sub>TM</sub>	—	—	1.6	V	Tc = 25°C, I <sub>TM</sub> = 40 A,
						instantaneous value
Gate trigger voltage	$V_{GT}$	—	—	1.5	V	$Tj = 25^{\circ}C, V_{D} = 6 V, I_{T} = 1 A$
Gate non-trigger voltage	$V_{GD}$	0.2/0.1	—	—	V	$Tj = 125^{\circ}C/150^{\circ}C, V_{D} = 1/2 V_{DRM}$
Gate trigger current	I <sub>GT</sub>	_	_	30	mA	$Tj = 25^{\circ}C, V_{D} = 6 V, I_{T} = 1 A$
Holding current	I <sub>H</sub>	—	15	—	mA	Tj = 25°C, V <sub>D</sub> = 12 V
Thermal resistance	R <sub>th (j-c)</sub>	_	—	1.6	°C/W	Junction to case <sup>Note1</sup>

Notes: 1. The contact thermal resistance  $R_{th\,(c\text{-}f)}$  in case of greasing is 0.5°C/W.

## **Performance Curves**



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## **Package Dimensions**



## **Order Code**

Lead form	Standard packing	Quantity	Standard order code	Standard order code example
Straight type	Magazine (Tube)	30	Type name	CR25RM-12D

Note : Please confirm the specification about the shipping in detail.

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