# New Jersey Semi-Conductor Products, Inc.

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## **SCRs**

1 Amp, Planar

#### **FEATURES**

- One Cycle Surge Current: 15A
- Voltage Ratings: to 200V
- Low "On-Voltage": 2V Max. at 1A
- Operation: to 150°C Junction Temperature
- All Leads Isolated for Design Flexibility

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#### RECOURTION

These types are useful in AC and DC static switching, proportioning control, relay and thyratron replacement, DC to AC converters, servo motor driving, protective circuits, and related applications.

This series is available in a TO-9 package, with all leads isolated from the case, providing a maximum thermal resistance of 20°C/Watt between junction and case.

ABSOLUTE MAXIMUM RATINGS  Repetitive Peak Off-State Voltage, V <sub>DRM</sub>	N1881	2N1882 60V	2N1883	2N1884 150V	2N
Repetitive Peak Off-State Voltage, VDRM	307	60V	100V	150V	2
Repetitive Peak Reverse Voltage, VRRM	307				
D.C. On-State Current, I <sub>T</sub>			250mA		
100°C Ambient		•••••	1 NA		
100°C Case		•••••		•••••	
100°C Case Repetitive Peak On-State Current, I <sub>TRM</sub>		•••••	up to 30A		
Repetitive Peak On-State Current, I <sub>TRM</sub> Peak One Cycle Surge (Non-Rep.) On-State Current Peak Gate Current, I <sub>GM</sub> Average Gate Current I <sub>G(AV)</sub> Reverse Gate Voltage, V <sub>GR</sub>	t, I <sub>TSM</sub>				
Peak Gate Current La.			250mA	••••••	••••••
Aurence Cate Current I			25mA	•••••	
Average Gate Current IG(AV)			3V	•••••	
Reverse Gate Voltage, V <sub>GR</sub>		***************************************	20°C/W		
Reverse Gate Voltage, V <sub>GR</sub> Thermal Resistance, Junction to Case, R0 <sub>J-C</sub> Operating and Storage Temperature Range	•••••		_65°C to ±150°C		
Operating and Storage Temperature Range			05 0 15 +150 0	***************************************	

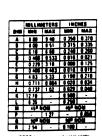
### ELECTRICAL SPECIFICATIONS (at 25°C unless noted)†

LEEDINIONE OF EOU CONTRACTOR		141-	Typical	Max.	Units	Test Conditions
Test	Symbol	Min.	Турісы	111,041		
Subgroup 1 (Visual and Mechanical)						
Subgroup 2 (25°C Tests) Off-State Current Reverse Current Reverse Gate Current Gate Trigger Current Gate Trigger Voltage On-State Voltage Holding Current Anode Trigger Current	I <sub>DRM</sub> IRRM I <sub>GR</sub> I <sub>GT</sub> V <sub>GT</sub> V <sub>T</sub> I <sub>H</sub> I <sub>AT</sub>	   0.40  	0.5 0.5 0.5 0.2 1 1.5 2	10 10 10 2 2 2 —	μΑ μΑ μΑ MA V MA MA	$\begin{array}{l} R_{GK}=1\text{K, V}_{\text{DRM}}=\text{Rating} \\ R_{GK}=1\text{K, V}_{\text{RRM}}=\text{Rating} \\ \text{V}_{\text{GRM}}=2\text{V} \\ R_{GS}=10\text{K, V}_{\text{D}}=5\text{V} \\ R_{GS}=100\Omega, \text{V}_{\text{D}}=5\text{V} \\ \text{I}_{\text{T}}=1\text{A (pulse test)} \\ \text{I}_{\text{G}}=-150\mu\text{A, V}_{\text{D}}=5\text{V} \\ \text{R}_{\text{GS}}=10\text{K, V}_{\text{D}}=5\text{V} \end{array}$
Subgroup 3 (25°C Tests) Turn-on Time Gate Trigger — on Pulse Width Turn-off Time Circuit Commutated Turn-off Time	t <sub>on</sub> t <sub>pg</sub> (on) t <sub>off</sub> t <sub>q</sub>		0.2 1 1 1	- - -	μS μS μS μS	$\begin{array}{l} I_{G}=20\text{mA},\ I_{T}=0.5\text{A},\ V_{D}=30\text{V}\\ I_{G}=20\text{mA},\ I_{T}=0.5\text{A},\ V_{D}=30\text{V}\\ I_{T}=1\text{A},\ I_{R}=1\text{A},\ R_{GK}=1\text{K}\\ I_{T}=1\text{A},\ I_{R}=1\text{A},\ R_{GK}=1\text{K} \end{array}$
Subgroup 3 (125°C Tests) High Temp. Off-State Current High Temp. Reverse Current	I <sub>DRM</sub> I <sub>RRM</sub>	_	15 15	200 200	μ <b>Α</b> μ <b>Α</b>	$\begin{array}{c} {\rm R_{GK}} = 1{\rm K, V_{DRM}} \stackrel{\prime}{=} {\rm Rating} \\ {\rm R_{GK}} = 1{\rm K, V_{RRM}} = {\rm Rating} \end{array}$

<sup>†</sup> All values in this table are JEDEC registered.

Nets: Voltage ratings apply over the operating temperature range, provided the gate is connected to the cathode through an appropriate resistor, or adequate gate bias is used.

PIN 1. CATHODE 2. GATE 3. ANODE





TO-39



**Quality Semi-Conductors**