

# Central<sup>TM</sup> Semiconductor Corp.

145 Adams Avenue, Hauppauge, NY 11788 USA  
Tel: (631) 435-1110 • Fax: (631) 435-1824

Manufacturers of World Class Discrete Semiconductors

2N681,A THRU 2N692,A

SILICON CONTROLLED RECTIFIER  
25 AMPS, 25 THRU 800 VOLTS

JEDEC TO-48 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N681,A Series types are Silicon Controlled Rectifiers designed for phase control applications.

**MAXIMUM RATINGS** ( $T_C=25^\circ\text{C}$  unless otherwise noted)

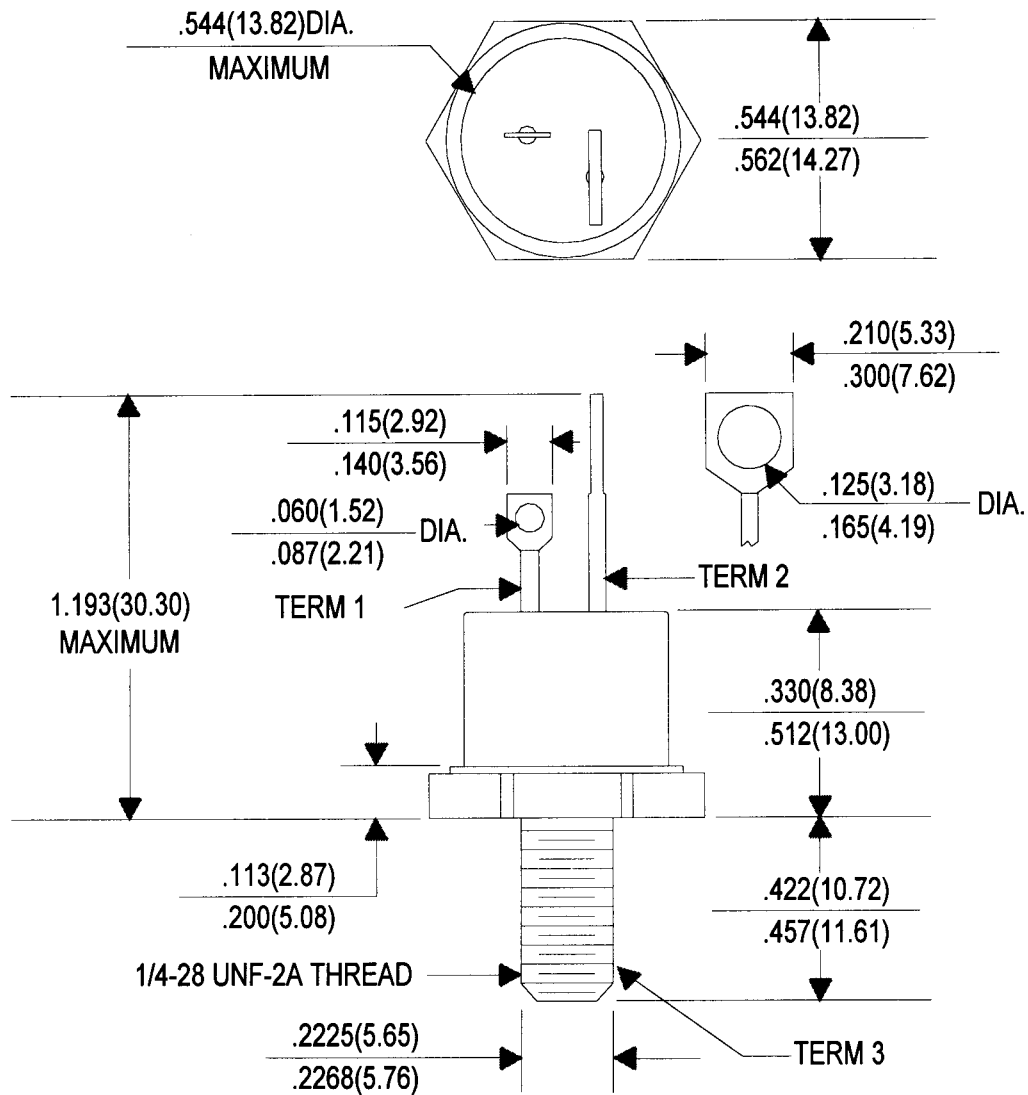
	2N681,A	2N682,A	2N683,A	2N684,A	2N685,A	2N686,A	2N687,A	2N688,A	2N689,A	2N690,A	2N691,A	2N692,A	UNITS
$V_{DRM}$	25	50	100	150	200	250	300	400	500	600	700	800	V
$V_{RRM}$	25	50	100	150	200	250	300	400	500	600	700	800	V
$V_{RSM}$	25	50	100	150	200	250	300	400	500	600	700	800	V
RMS On-State Current ( $T_C=70^\circ\text{C}$ )					$I_T(\text{RMS})$				25				A
Peak One Cycle Surge Current (60Hz)					$I_{TSM}$				200				A
Peak Gate Power Dissipation					$P_{GM}$				5.0				W
Average Gate Power Dissipation					$P_{G(AV)}$				0.5				W
Storage Temperature					$T_{stg}$				-65 to +150				$^\circ\text{C}$
Operating Junction Temperature					$T_J$				-65 to +125				$^\circ\text{C}$
Thermal Resistance, Junction to Case					$\theta_{JC}$				1.5				$^\circ\text{C/W}$

**ELECTRICAL CHARACTERISTICS** ( $T_C=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{DRM}, I_{RRM}$	Rated $V_{DRM}, V_{RRM}, T_C=125^\circ\text{C}$ (2N681,A, 2N682,A, 2N683, 2N684,A)			13	mA
$I_{DRM}, I_{RRM}$	Rated $V_{DRM}, V_{RRM}, T_C=125^\circ\text{C}$ (2N685,A)			12	mA
$I_{DRM}, I_{RRM}$	Rated $V_{DRM}, V_{RRM}, T_C=125^\circ\text{C}$ (2N686,A)			11	mA
$I_{DRM}, I_{RRM}$	Rated $V_{DRM}, V_{RRM}, T_C=125^\circ\text{C}$ (2N687,A)			10	mA
$I_{DRM}, I_{RRM}$	Rated $V_{DRM}, V_{RRM}, T_C=125^\circ\text{C}$ (2N688,A)			8.0	mA
$I_{DRM}, I_{RRM}$	Rated $V_{DRM}, V_{RRM}, T_C=125^\circ\text{C}$ (2N689,A)			6.0	mA
$I_{DRM}, I_{RRM}$	Rated $V_{DRM}, V_{RRM}, T_C=125^\circ\text{C}$ (2N690,A)			5.0	mA
$I_{DRM}, I_{RRM}$	Rated $V_{DRM}, V_{RRM}, T_C=125^\circ\text{C}$ (2N691,A)			4.5	mA
$I_{DRM}, I_{RRM}$	Rated $V_{DRM}, V_{RRM}, T_C=125^\circ\text{C}$ (2N692,A)			4.0	mA
$I_{GT}$	$V_D=12\text{V}, R_L=50\Omega$			40	mA
$V_{GT}$	$V_D=12\text{V}, R_L=50\Omega$			2.0	V
$V_{TM}$	$I_{TM}=50\text{A}, PW=1.0\text{ms}, D.C=2.0\%$			2.0	V
$I_H$	$V_D=7.0\text{V}, R_{GK}=1\text{K}\Omega$ (2N681 thru 2N692)			100	mA
$I_H$	$V_D=7.0\text{V}, R_{GK}=1\text{K}\Omega$ (2N681A thru 2N692A)			50	mA
dv/dt	Rated $V_{DRM}, T_C=125^\circ\text{C}$		100		V/ $\mu\text{s}$
$t_{on}$	$I_F=10\text{A}, I_G=200\text{mA}$		2.0		$\mu\text{s}$
$t_{off}$	$I_F=10\text{A}, I_G=200\text{mA}$		15		$\mu\text{s}$

(See Reverse Side)

## JEDEC TO-48 CASE - MECHANICAL OUTLINE



All Dimensions in Inches (mm).

LEAD CODE:

TERM 1) GATE  
TERM 2) CATHODE  
TERM 3) ANODE

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