

CentralTM Semiconductor Corp.

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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)

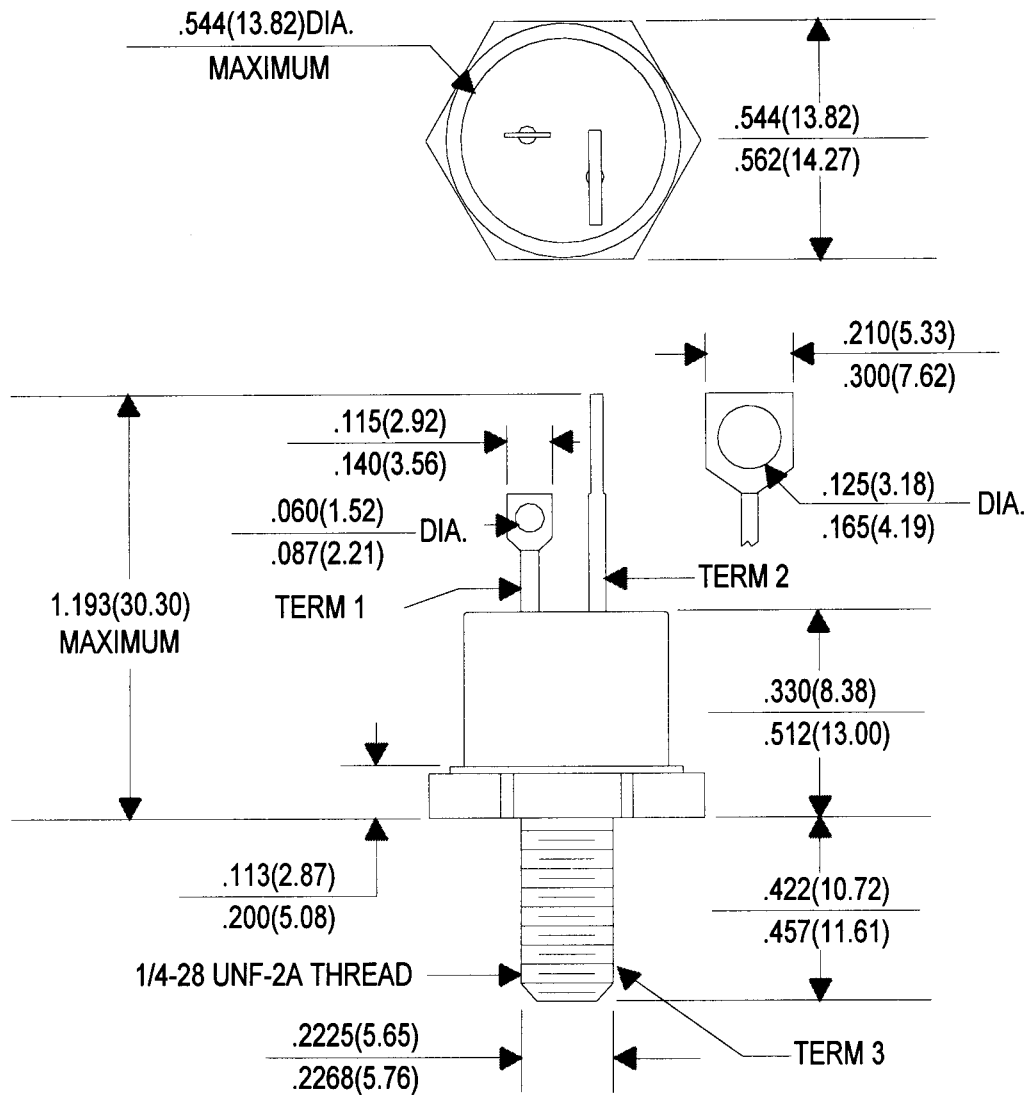
	2N681,A	2N682,A	2N683,A	2N684,A	2N685,A	2N686,A	2N687,A	2N688,A	2N689,A	2N690,A	2N691,A	2N692,A	UNITS
V_{DRM}	25	50	100	150	200	250	300	400	500	600	700	800	V
V_{RRM}	25	50	100	150	200	250	300	400	500	600	700	800	V
V_{RSM}	25	50	100	150	200	250	300	400	500	600	700	800	V
RMS On-State Current ($T_C=70^{\circ}\text{C}$)					$I_{\text{T(RMS)}}$				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					$P_{\text{G(AV)}}$				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					Θ_{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
$I_{\text{DRM}}, I_{\text{RRM}}$	Rated $V_{\text{DRM}}, V_{\text{RRM}}, T_C=125^{\circ}\text{C}$ (2N681,A, 2N682,A, 2N683,A, 2N684,A)			13	mA
$I_{\text{DRM}}, I_{\text{RRM}}$	Rated $V_{\text{DRM}}, V_{\text{RRM}}, T_C=125^{\circ}\text{C}$ (2N685,A)			12	mA
$I_{\text{DRM}}, I_{\text{RRM}}$	Rated $V_{\text{DRM}}, V_{\text{RRM}}, T_C=125^{\circ}\text{C}$ (2N686,A)			11	mA
$I_{\text{DRM}}, I_{\text{RRM}}$	Rated $V_{\text{DRM}}, V_{\text{RRM}}, T_C=125^{\circ}\text{C}$ (2N687,A)			10	mA
$I_{\text{DRM}}, I_{\text{RRM}}$	Rated $V_{\text{DRM}}, V_{\text{RRM}}, T_C=125^{\circ}\text{C}$ (2N688,A)			8.0	mA
$I_{\text{DRM}}, I_{\text{RRM}}$	Rated $V_{\text{DRM}}, V_{\text{RRM}}, T_C=125^{\circ}\text{C}$ (2N689,A)			6.0	mA
$I_{\text{DRM}}, I_{\text{RRM}}$	Rated $V_{\text{DRM}}, V_{\text{RRM}}, T_C=125^{\circ}\text{C}$ (2N690,A)			5.0	mA
$I_{\text{DRM}}, I_{\text{RRM}}$	Rated $V_{\text{DRM}}, V_{\text{RRM}}, T_C=125^{\circ}\text{C}$ (2N691,A)			4.5	mA
$I_{\text{DRM}}, I_{\text{RRM}}$	Rated $V_{\text{DRM}}, V_{\text{RRM}}, T_C=125^{\circ}\text{C}$ (2N692,A)			4.0	mA
I_{GT}	$V_{\text{D}}=12\text{V}, R_{\text{L}}=50\Omega$			40	mA
V_{GT}	$V_{\text{D}}=12\text{V}, R_{\text{L}}=50\Omega$			2.0	V
V_{TM}	$I_{\text{TM}}=50\text{A}, \text{PW}=1.0\text{ms}, \text{D.C.}=2.0\%$			2.0	V
I_{H}	$V_{\text{D}}=7.0\text{V}, R_{\text{GK}}=1\text{K}\Omega$ (2N681 thru 2N692)			100	mA
I_{H}	$V_{\text{D}}=7.0\text{V}, R_{\text{GK}}=1\text{K}\Omega$ (2N681A thru 2N692A)			50	mA
dv/dt	Rated $V_{\text{DRM}}, T_C=125^{\circ}\text{C}$		100		V/ μs
t_{on}	$I_{\text{F}}=10\text{A}, I_{\text{G}}=200\text{mA}$		2.0		μs
t_{off}	$I_{\text{F}}=10\text{A}, I_{\text{G}}=200\text{mA}$		15		μs

(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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