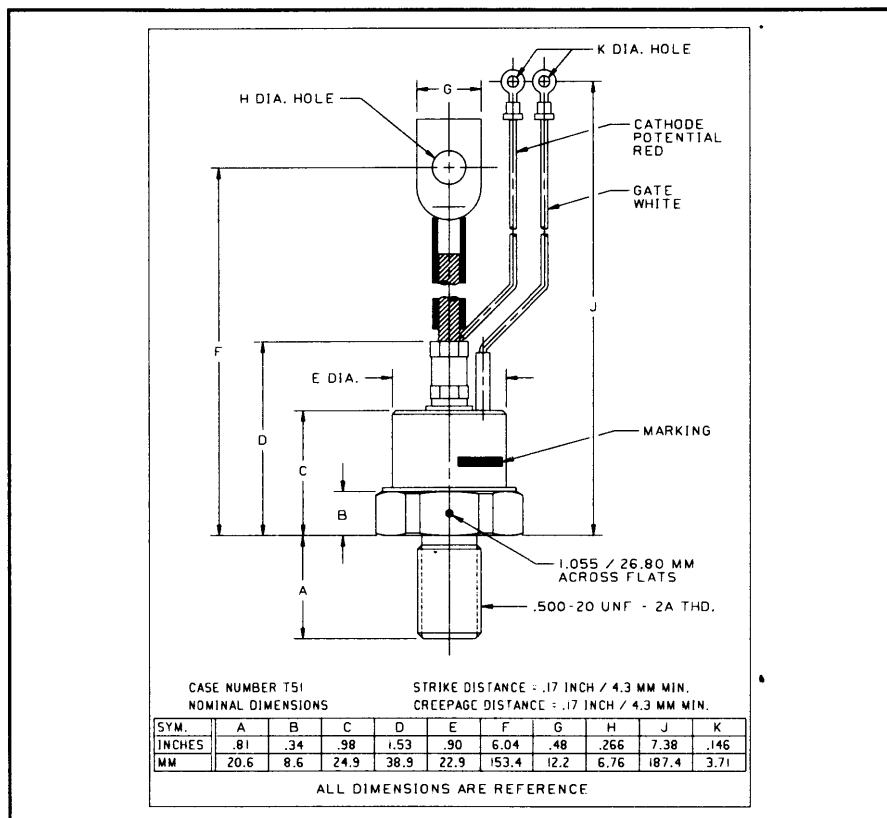
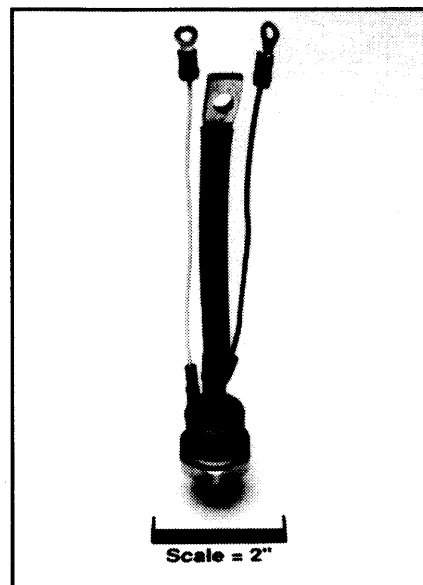


Powerex, Inc., 200 Hillis Street, Youngwood, Pennsylvania 15697-1800 (412) 925-7272
Powerex, Europe, S.A. 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

Phase Control SCR
70 Amperes Average (110 RMS)
600 Volts



2N1909-2N1792 (Outline Drawing)



2N1909-2N1792
Phase Control SCR
70 Amperes Average (110 RMS),
600 Volts

Ordering Information:

Select the complete six digit part number you desire from the table, i.e. 2N1800 is a 600 Volt, 70 Ampere Phase Control SCR.

Type	Voltage		Current	
	V_{DRM}	V_{RRM}	$I_{T(av)}$	
2N1909	25		70	
2N1910	50			
2N1911	100			
2N1912	150			
2N1913	200			
2N1914	250			
2N1915	300			
2N1916	400			
2N1805	500			
2N1806	600			

Features:

- ☐ Center Fired, di/damic Gate
- ☐ All Diffused Design
- ☐ Low Gate Current
- ☐ Compression Bonded Encapsulation
- ☐ Low V_{TM}

Applications:

- ☐ Phase Control
- ☐ Power Supplies
- ☐ Motor Control
- ☐ Light Dimmers



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Absolute Maximum Ratings

Characteristics	Symbol	2N1909 - 2N1792	Units
RMS Forward Current	$I_T(\text{rms})$	110	Amperes
Average Forward Current	$I_T(\text{av})$	70	Amperes
One-half Cycle Surge Current	I_{TSM}	1000	Amperes
Minimum Rate of Rise of On-State Current (Non-Repetitive)	di/dt	800	A/ μsec
I^2t (for Fusing), ≥ 8.3 milliseconds	I^2t	4000	A ² sec
Storage Temperature	T_{stg}	-40 to +150	°C
Operating Temperature	T_j	-40 to +125	°C
Mounting Torque (Lubricated)		130	in-lb



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Electrical and Thermal Characteristics

Characteristics	Symbol	2N1909	2N1910 2N1792	2N1911 2N1793	2N1912 2N1794	2N1913 2N1795	2N1914 2N1796	2N1915 2N1797	2N1916 2N1798	2N1805 2N1799	2N1806 2N1800	Units
Current - Conducting State Maximums, $T_j = 125^{\circ}\text{C}$												
Forward Voltage Drop at $I_{\text{TM}} = 500\text{A}$ Average, $T_j = 25^{\circ}\text{C}$	V_{TM}	2.3 (All Types)										Volts
Voltage - Blocking State Maximums												
Repetitive Peak Forward Blocking Voltage	V_{DRM}	25	50	100	150	200	250	300	400	500	600	Volts
Repetitive Peak Reverse Voltage	V_{RRM}	25	50	100	150	200	250	300	400	500	600	Volts
Non-rep. Trans. Peak Rev. Voltage	V_{RSM}	35	75	150	225	300	350	400	500	600	700	Volts
Forward Leakage Current	I_{DRM}	20	20	20	20	18	16	14	12	10	10	mA
Reverse Leakage Current	I_{RRM}	20	20	20	20	18	16	14	12	10	10	mA
Switching												
Typical Turn-off Time, $I_{\text{T}} = 50\text{A}$, $di_{\text{P}}/dt = 5\text{ A/sec}$, reapplied $dv/dt = 20\text{V}/\mu\text{sec}$ linear to $0.8\text{ }V_{\text{DRM}}$, $T_j = 125^{\circ}\text{C}$	t_{q}	100 (All Types)										μsec
Typical Turn-on Time, $I_{\text{T}} = 100\text{A}$, $V_{\text{D}} = 100\text{V}$	t_{on}	4 (All Types)										μsec
Minimum Critical dv/dt Exponential to V_{DRM} $T_j = 125^{\circ}\text{C}$	dv/dt	300 (All Types)										$\text{V}/\mu\text{sec}$
Thermal												
Maximum Resistance, Junction to Case	$R_{\theta(j-c)}$	0.40 (All Types)										$^{\circ}\text{C}/\text{Watt}$
Maximum Resistance, Case to Sink (Lubricated)	$R_{\theta(c-s)}$	0.12 (All Types)										$^{\circ}\text{C}/\text{Watt}$
Gate - Maximim Parameters												
Gate Current to Trigger, $T_j = 25^{\circ}\text{C}$, $V_{\text{D}} = 12\text{V}$	I_{GT}	70 (All Types)										mA
Gate Voltage to Trigger, $T_j = 25^{\circ}\text{C}$, $V_{\text{D}} = 12\text{V}$	V_{GT}	3 (All Types)										Volts
Non-Triggering Gate Voltage, $T_j = 125^{\circ}\text{C}$, $V_{\text{DRM}} = \text{Rated}$	V_{GDM}	0.25 (All Types)										Volts
Peak Forward Gate Current	I_{GTM}	4 (All Types)										Amperes
Peak Reverse Gate Voltage	V_{GRM}	5 (All Types)										Volts

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