

OPTOCOPLERS

T-41-87

OPTOCOPLER—SCR OUTPUT**ELECTRO-OPTICAL CHARACTERISTICS (TA = 25°C)**

Part Number	Isolation Voltage Min. Vrms	If Trigger			Reverse Current TA = 100°C, IF = 0			Blocking Voltage TA = 100°C, Rok = 10K V	Typical ton μ s	Forward Voltage		Typical Characteristics Figures
		Max. mA	@VAK V	Rok K Ω	Max. μ A	@VDM V	Rok K Ω			Max. V	@IF mA	
4N39	2500	14	100	27	50	200	10	200	1.0	1.5	10	1-12
4N40	2500	14	100	27	150	400	10	400	1.0	1.5	10	1-12
CNY30	2500	20	50	10	50	200	10	200	1.0	1.5	10	1-12
CNY34	2500	20	50	10	150	400	10	400	1.0	1.5	10	1-12
H11C1	4000	20	50	10	50	200	10	200	1.0	1.5	10	1-12
H11C2	2500	20	50	10	50	200	10	200	1.0	1.5	10	1-12
H11C3	2500	30	50	10	50	200	10	200	1.0	1.5	10	1-12
H11C4	4000	20	50	10	150	400	10	400	1.0	1.5	10	1-12
H11C5	2500	20	50	10	150	400	10	400	1.0	1.5	10	1-12
H11C6	2500	30	50	10	150	400	10	400	1.0	1.5	10	1-12
H11M1	4000	7	6.0	27	100	800	10	800	1.0	1.5	10	13-21
H11M2	4000	15	6.0	27	100	800	10	800	1.0	1.5	10	13-21
H11M3	4000	7	6.0	27	100	600	10	600	1.0	1.5	10	13-21
H11M4	4000	15	6.0	27	100	600	10	600	1.0	1.5	10	13-21
MCS2	4000	14	100	27	50	200	10	200	1.0	1.5	20	1-12
MCS2400	4000	14	100	27	150	400	10	400	1.0	1.5	20	1-12
MCS2401	4000	20	50	10	100	400	10	400	1.0	1.5	20	1-12



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OPTOCOUPLER—SCR OUTPUT

ABSOLUTE MAXIMUM RATINGS (TA = 25°C)

Part Number	INFRARED DIODE				PHOTO SCR						
	Power Dissipation mW	Forward Current mA	I _r Peak** A	Reverse Voltage V	Power Dissipation mW	Off State Reverse Voltage V	Peak Gate Reverse Voltage V	Peak Gate Current mA	On State Current mA	Surge Current A	us
4N39	100*	60	1.0	6.0	400†	200	6.0	10	300	10	100
4N40	100*	60	1.0	6.0	400†	400	6.0	10	300	10	100
CNY30	100*	60	1.0	6.0	400†	200	6.0	10	300	10	100
CNY34	100*	60	1.0	6.0	400†	400	6.0	10	300	10	100
H11C1	100‡	60	3.0	6.0	400§	200	6.0	—	300	5.0	10
H11C2	100‡	60	3.0	6.0	400§	200	6.0	—	300	5.0	10
H11C3	100‡	60	3.0	6.0	400§	200	6.0	—	300	5.0	10
H11C4	100‡	60	3.0	6.0	400§	400	6.0	—	300	5.0	10
H11C5	100‡	60	3.0	6.0	400§	400	6.0	—	300	5.0	10
H11C6	100‡	60	3.0	6.0	400§	400	6.0	—	300	5.0	10
H11M1	100‡	60	1.0	6.0	400§	800	5.0	—	300	3.0	10
H11M2	100‡	60	1.0	6.0	400§	800	5.0	—	300	3.0	10
H11M3	100‡	60	1.0	6.0	400§	600	5.0	—	300	3.0	10
H11M4	100‡	60	1.0	6.0	400§	600	5.0	—	300	3.0	10
MCS2	100‡	60	1.0	3.0	400§	200	6.0	10	300	10	10
MCS2400	100‡	60	1.0	3.0	400§	400	6.0	10	300	10	10
MCS2401	100‡	60	1.0	3.0	400§	400	6.0	10	300	10	10

*Derate 2.0 mW/°C above 25°C †Derate 6.0 mW/°C above 25°C ‡Derate 1.33 mW/°C above 25°C §Derate 5.3 mW/°C above 25°C **100usec pulse, 1% duty cycle

OPTOCOUPLER—SCR OUTPUT TYPICAL CHARACTERISTICS

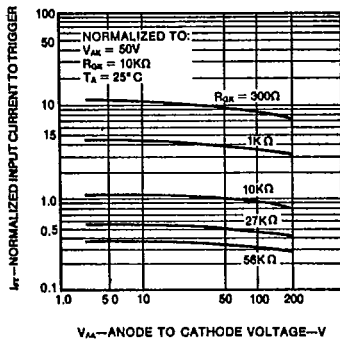


FIGURE 1—Input Current to Trigger vs Anode-Cathode Voltage

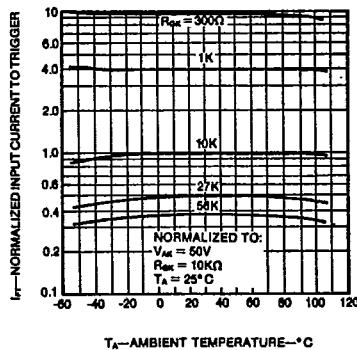


FIGURE 2—Input Current to Trigger vs Temperature

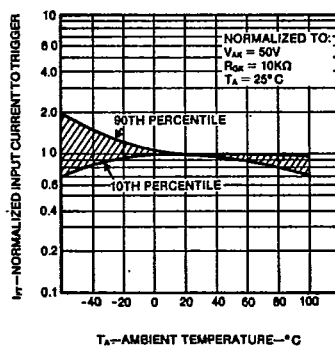


FIGURE 3—Input Current to Trigger Distribution vs Temperature



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OPTOCOUPLER—SCR OUTPUT TYPICAL CHARACTERISTICS

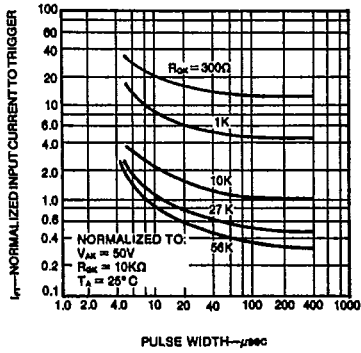


FIGURE 4—Input Current to Trigger vs Pulse Width

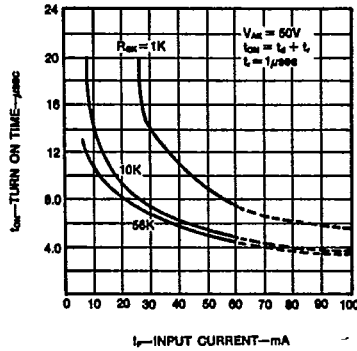


FIGURE 5—Turn On Time vs Input Current

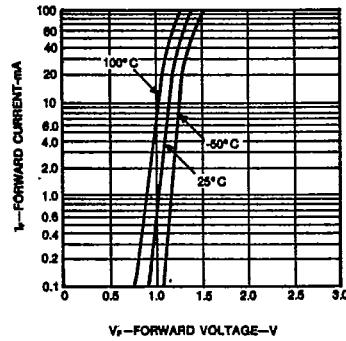


FIGURE 6—Input Characteristics

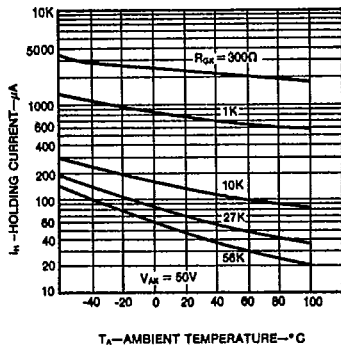


FIGURE 7—Holding Current vs Temperature

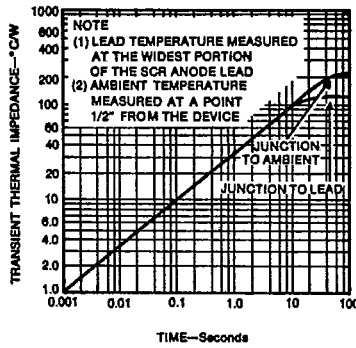


FIGURE 8—Maximum Transient Thermal Impedance

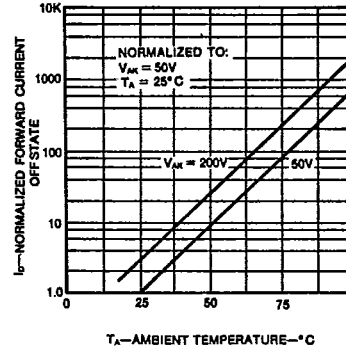


FIGURE 9—Off State Forward Current vs Temperature

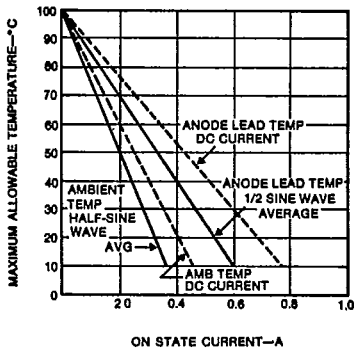


FIGURE 10—On State Current vs Maximum Allowable Temperature

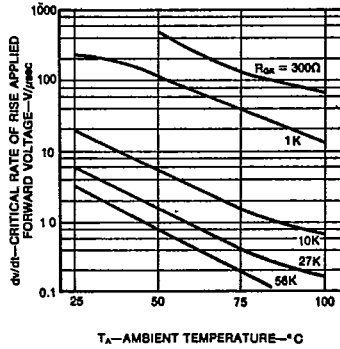


FIGURE 11—dv/dt vs Temperature

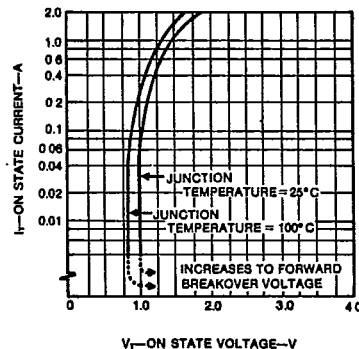


FIGURE 12—On State Characteristics



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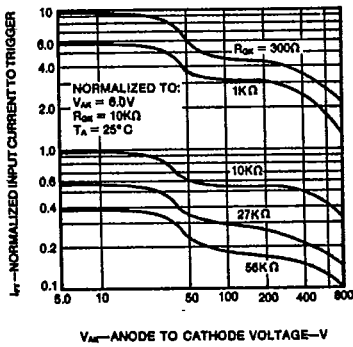


FIGURE 13—Input Current to Trigger vs Anode to Cathode Voltage

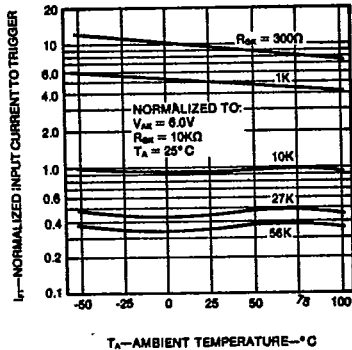


FIGURE 14—Input Current to Trigger vs Temperature

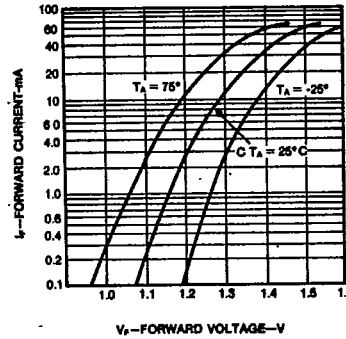


FIGURE 15—Input Voltage vs Input Current

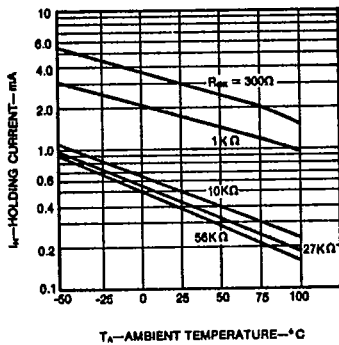


FIGURE 16—Holding Current vs Temperature

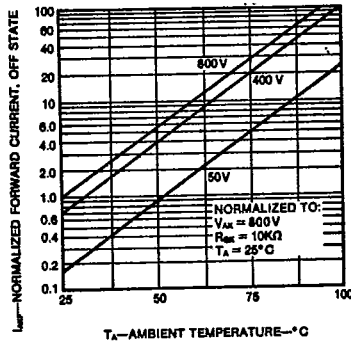


FIGURE 17—Off State Leakage vs Temperature

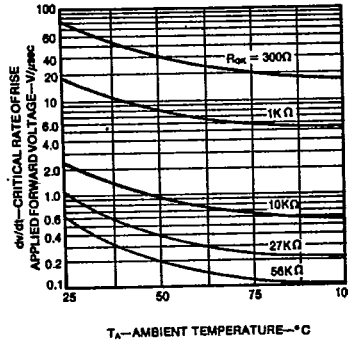


FIGURE 18—dv/dt vs Temperature

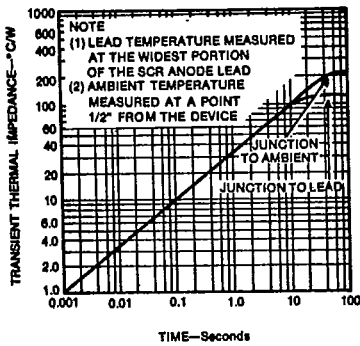


FIGURE 19—Maximum Transient Thermal Impedance

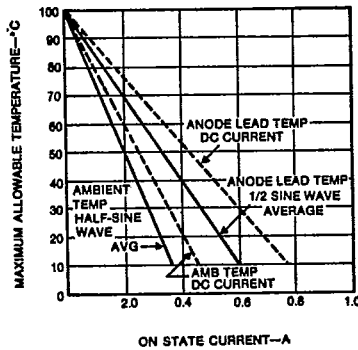


FIGURE 20—On State Current vs Maximum Allowable Temperature

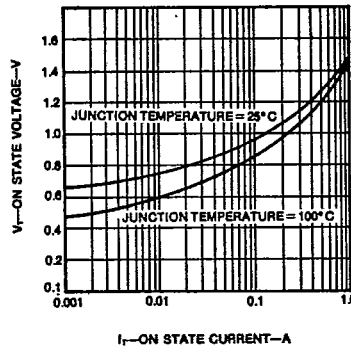


FIGURE 21—On-State Characteristics

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