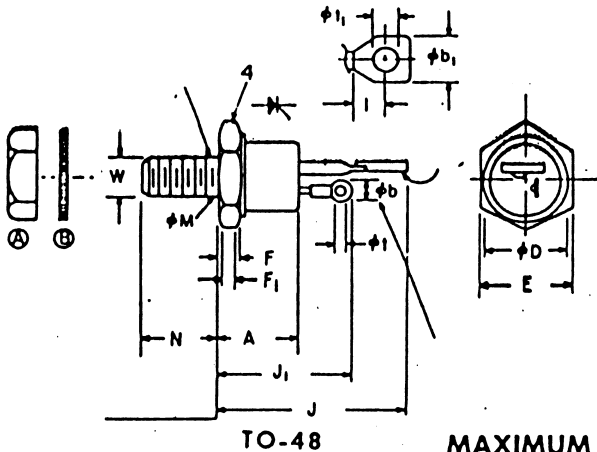


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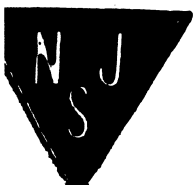
SCR
2N3658



SYMBOL	INCHES		MILLIMETERS	
	MIN.	MAX.	MIN.	MAX.
A	.330	.505	8.38	12.83
cb	.115	.140	2.92	3.56
(ch) ₁	.210	.300	5.33	7.62
(cd)		.544		13.82
E	.544	.562	13.82	14.27
F	.113	.200	2.87	5.08
F ₁	.060		1.52	
J		1.193		30.30
J ₁		.875		22.23
I	.120		3.05	
(m)				
N	.422	.453	10.72	11.51
(n)	.060	.075	1.52	1.91
(n) ₁	.125	.165	3.18	4.19
W				

TYPE	DC FORWARD BLOCKING VOLTAGE V_{FO} (1) $T_0 = -65^{\circ}\text{C to } +120^{\circ}\text{C}$	PEAK FORWARD VOLTAGE PFV (1) $T_0 = -65^{\circ}\text{C to } +120^{\circ}\text{C}$	DC REVERSE VOLTAGE V_{RO} (1) $T_0 = -65^{\circ}\text{C to } +120^{\circ}\text{C}$	NON-REPETITIVE PEAK REVERSE VOLTAGE (Half Sine Wave) V_{ROM} (non-rep) (1) $T_0 = -65^{\circ}\text{C to } +120^{\circ}\text{C}$
(2N3658)	400 volts*	400 volts*	400 volts*	500 volts*

Turn-On Current Limit (See Chart 10) _____ 400 amperes per μsec
 RMS Forward Current, On-State _____ 35 amperes
 DC Forward Current, On-State, $T_C = 40^{\circ}\text{C}$ _____ 25 amperes
 Peak Rectangular Surge Forward Current (5.0msec width, $t_r = 50\mu\text{sec}$) I_{FM} (surge) _____ 180 amperes
 Ft (for fusing) _____ 165 ampere² seconds (for times ≥ 1.0 millisecond)
 Peak Gate Power Dissipation, P_{GM} _____ 40 watts
 Average Gate Power Dissipation, $P_{G(AV)}$ _____ 1.0 watt
 Peak Reverse Gate Voltage, V_{GRM} _____ 10 volts
 Peak Forward Gate Current, I_{GFM} _____ 6.4 amperes
 Reverse Recovery Energy _____ 0.002 watt sec.
 Storage Temperature, T_{MR} _____ $-65^{\circ}\text{C to } +150^{\circ}\text{C}$
 Operating Temperature, T_C _____ $-65^{\circ}\text{C to } +120^{\circ}\text{C}$
 Stud Torque _____ 30 Lb-in (35 Kg-Cm)



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

CHARACTERISTICS

TEST	SYMBOL	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
PULSE CIRCUIT COMMUTATED TURN-OFF TIME	t_{off} (pulse)	—	—	10*	μsec μsec	See Charts 1 and 4. $T_c = +115^\circ\text{C}$, $I_{FM} = 100$ amps, Approx. Sinusoidal current waveform ($t_r = 1.0 \mu\text{sec}$, $t_f = 2.05 \mu\text{sec}$), No delay reactor, Pulse rep. rate = 400 Hz. $V_{FKM} = \text{Rated}$, $V_{AKM} = 200$ volts, $v_{AK} = 30$ volts. Rate of rise of reapplied forward blocking voltage (dv/dt) = 200 volts/ μsec (linear ramp). Gate supply: 20 volts open circuit, 20 ohms, 1.5 μsec square wave pulse, Rise time = 0.1 μsec max.
CONVENTIONAL CIRCUIT COMMUTATED TURN-OFF TIME	t_{off}	—	—	10*	μsec μsec	$T_c = +120^\circ\text{C}$, $I_{FM} = 10$ amps (50 μsec pulse), Rectangular current waveform, Test repetition rate = 60 Hz. $V_{FKM} = \text{Rated}$, $V_{AKM} = \text{Rated}$ (see Chart 1), $v_{AK} = 15$ volts (see Chart 1). Rate of rise of current < 10 amps/ μsec . Rate of fall of current ≤ 5 amps/ μsec . Rate of rise of reapplied forward blocking voltage (dv/dt) = 200 volts/ μsec (linear ramp). Gate bias = 0 volts, 100 ohms (during turn-off time interval).