

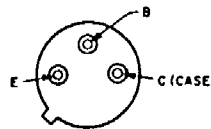
40347

## Silicon N-P-N Power Transistor

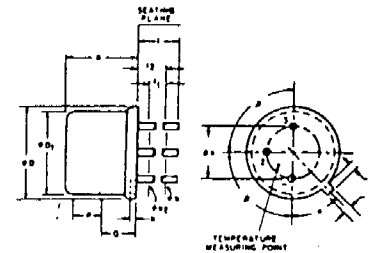
**Maximum Ratings, Absolute-Maximum Values:**

* COLLECTOR-TO-BASE VOLTAGE: $V_{CB0}$	60	V
* COLLECTOR-TO-EMITTER VOLTAGE:		
With base open, sustaining: $V_{CE0(sus)}$	40	V
With emitter-to-base reverse biased ( $V_{EB} = 1.5$ volts): $V_{CEV}$	60	V
* EMITTER-TO-BASE VOLTAGE: $V_{EB0}$	7	V
* COLLECTOR CURRENT: $I_C$	1.5	A
PEAK COLLECTOR CURRENT: $I_{CM}$	3.0	A
* EMITTER CURRENT: $I_E$	-	A
* BASE CURRENT: $I_B$	0.5	A
* TRANSISTOR DISSIPATION: $P_T$		
At case temperature of 25°C	11.7	W

TERMINAL DESIGNATIONS



TO-39/TO-5

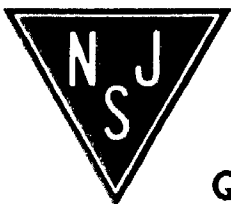


ELECTRICAL CHARACTERISTICS, At Case Temperature ( $T_C$ ) = 25°C unless otherwise specified

CHARACTERISTIC	SYMBOL	TEST CONDITIONS				LIMITS		UNITS
		VOLTAGE		CURRENT		40347		
		$V_{CE}$	$V_{BE}$	$I_C$	$I_B$	MIN.	MAX.	
Collector-Cutoff Current With external base-to-emitter resistance ( $R_{BE}$ ) = 1 k $\Omega$	$I_{CER}$	30				-	1	$\mu$ A
		60				-	-	
		90				-	-	
With $R_{BE} = 1$ k $\Omega$ and $T_C = 150^\circ$ C	$I_{CER}$	30				-	1	mA
		60				-	-	
		90				-	-	
Emitter-Cutoff Current	$I_{EBO}$		-7			-	10	$\mu$ A
DC Forward-Current Transfer Ratio	$h_{FE}$	4		0.15		-	-	
		4		0.30		-	-	
		4		0.45		25	100	
		4		1.00		-	-	
Collector-to-Emitter Sustaining Voltage: With base-emitter junction reverse biased	$V_{CEV(sus)}$		-1.5	0.050		60	-	V
				0.050		40	-	
Base-to-Emitter Voltage	$V_{BE}$	4		0.15		-	-	V
		4		0.30		-	-	
		4		0.45		-	1.5	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$			0.15	15 mA	-	-	V
				0.30	30 mA	-	-	
				0.45	45 mA	-	1	

SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN.	MAX.	MIN.	MAX.	
$\phi A'$	0.190	0.210	4.83	5.33	
$\phi A$	0.240	0.260	6.10	6.60	
$\phi b$	0.016	0.021	0.406	0.533	2
$\phi b_2$	0.016	0.019	0.406	0.483	2
$\phi D$	0.350	0.370	8.89	9.40	
$\phi D_1$	0.305	0.335	8.00	8.51	
$h$	0.009	0.041	0.229	1.04	
$l$	0.028	0.034	0.711	0.864	
$h$	0.029	0.040	0.737	1.02	3
$L$ long lead	1.500		38.10		2
$L$ short lead	0.500		12.70		2
$l_1$		0.050		1.27	2
$l_2$	0.250		6.35		2
$P$	0.100		2.54		1
$O$					4
$s$	450 NOMINAL				
$\beta$	900 NOMINAL				

- Note 1: This zone is controlled for automatic handling. The variation in actual diameter within this zone shall not exceed 0.010 in. (0.254 mm).
- Note 2: (Three leads)  $l_2$  applies between  $l_1$  and  $l_2$ ;  $ob$  applies between  $l_2$  and  $l_1$ . Diameter is uncontrolled in  $l_1$ .
- Note 3: Measured from maximum diameter of the actual device.
- Note 4: Details of outline in this zone optional.



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