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2N5189
SILICON N-P-N
HIGH-VOLTAGE
TRANSISTOR

Maximum Ratings, Absolute-Maximum Values:

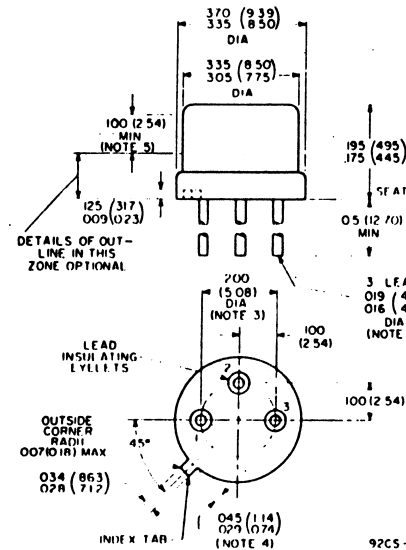
COLLECTOR-TO-BASE VOLTAGE, V_{CBO}	60 max.	V
COLLECTOR-TO-EMITTER VOLTAGE, V_{CEO}	35 max.	V
EMITTER-TO-BASE VOLTAGE, V_{EB0}	5 max.	V
COLLECTOR CURRENT, I_C	Limited by dissipation	
TRANSISTOR DISSIPATION, P_T :		
For case temperatures*	up to 25°C : 5 max. W above 25°C : Derate at 28.5mW/°C	
For ambient temperatures	up to 25°C : 1 max. W above 25°C : Derate at 5.7mW/°C	
TEMPERATURE RANGE: Storage and Operating (Junction) -65 to +200 °C		

ELECTRICAL CHARACTERISTICS, at $T_A = 25^\circ\text{C}$

Characteristics	Symbols	TEST CONDITIONS							LIMITS		Units
		T_A °C	f MHz	V_{CE} Volts	V_{CE} Volts	I_C mA	I_E mA	I_{IH} mA	Type 2N5189		
									Min.	Max.	
Collector-Cutoff Current	I_{CBO}	25			30				-	0.5	μA
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	25				0.1			60	-	V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	25				10			35	-	V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EB0}$	25					0.1		-	5	V
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	25				1000		100	-	1	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	25				1000		100	-	1.5	V
Static Forward Current-Transfer Ratio	h_{FE}	25			1	100			-	30	
		25			1	500			-	35	
		25			1	1000			-	15*	
Small-Signal Forward-Current Transfer Ratio	h_{fe}		100		10	50			2.5	-	
Common-Base, Open-Circuit Output Capacitance	C_{ob}		0.1	10				0		12	pF
Turn-On Time (Delay Time + Rise Time)	$t_{on} = (t_d + t_r)$				I_C	I_{H1}	I_{H2}			40	ns
					1000	100	-				
Turn-Off Time (Storage Time + Fall Time)	$t_{off} = (t_s + t_f)$				1000	100	-100			70	ns

* Pulsed condition - Pulse duration $\leq 400 \mu\text{s}$, duty factor ≤ 0.03 .

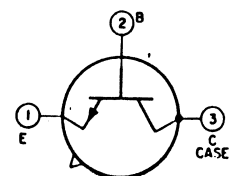
DIMENSIONAL OUTLINE



Dimensions in Inches and Millimeters

- Note 1: Dimensions in parentheses are in millimeters and are derived from the basic inch dimensions as indicated.
- Note 2: The specified lead diameter applies in the zone between 0.050" (1.27 mm) and 0.250" (6.35 mm) from the seating plane. From 0.250" (6.35 mm) to the end of the lead, the maximum diameter of 0.021" (0.533 mm) is held. In these zones, the lead diameter is not controlled.
- Note 3: Leads having a maximum diameter of 0.011" (0.28 mm) at a gaging plane of 0.054" (1.372 mm) \pm 0.000" (0.000 mm) below seating plane shall have a maximum width of tab of 0.007" (0.177 mm) of their true position (location) and a maximum width of tab.
- Note 4: Measured from actual maximum diameter.
- Note 5: This zone is controlled for automatic assembly. The variation in actual diameter within the zone shall not exceed 0.010" (0.25 mm).

TERMINAL DIAGRAM
Bottom View



- LEAD 1 - EMITTER
- LEAD 2 - BASE
- LEAD 3 - COLLECTOR, CASE

