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- High Current Capability . . . 700 mA
- High Dissipation Capability . . . 10 W
- f_T . . . 100 MHz Min

THE COLLECTOR IS IN ELECTRICAL CONTACT WITH THE CASE

The figure shows two views of the JEDEC TO-39 package. The left view is a side profile showing the case diameter as 0.370 to 0.380 DIA, the base diameter as 0.326 to 0.316 DIA, and the base thickness as 0.190 MIN. It also indicates a 'CASE TEMPERATURE MEASUREMENT POINT' and a 'SEATING PLANE'. The right view is a top-down circular view showing the '1-EMITTER' and '2-BASE' leads at 90° angles from the center, and the '3-COLLECTOR' lead at 180°. Dimensions include a lead length of 0.210 to 0.190, a lead diameter of 0.004 to 0.005, and a distance of 0.125 to 0.100 from the seating plane to the base of the collector lead.

CASE TEMPERATURE MEASUREMENT POINT IS CENTER OF SEATING SURFACE

ALL JEDEC TO-39 DIMENSIONS AND NOTES ARE APPLICABLE*

Collector-Base Voltage	60 V*
Collector-Emitter Voltage (See Note 1)	40 V*
Collector-Emitter Voltage (See Note 2)	50 V
Emitter-Base Voltage	5 V*
Continuous Collector Current	700 mA*
Continuous Device Dissipation at (or below) 25°C Free-Air Temperature (See Note 3)	1 W
Continuous Device Dissipation at (or below) 25°C Case Temperature (See Note 4)	$\left\{ \begin{array}{l} 10 \text{ W}^\dagger \\ 5 \text{ W}^* \end{array} \right.$
Storage Temperature Range	-65°C to 200°C*
Lead Temperature 1/16 Inch from Case for 10 Seconds	$\left\{ \begin{array}{l} 300^\circ\text{C}^\dagger \\ 235^\circ\text{C}^* \end{array} \right.$

PARAMETER		TEST CONDITIONS		MIN	MAX	UNIT
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = 100 \mu A, I_E = 0$		60		V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 100 \mu A, I_B = 0$		40		V
$V_{(BR)CER}$	Collector-Emitter Breakdown Voltage	$I_C = 100 mA, R_{BE} = 10 \Omega$, See Note 5		50		V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = 100 \mu A, I_C = 0$		5		V
I_{CEV}	Collector Cutoff Current	$V_{CE} = 30 V, V_{BE} = -1.5 V$		250		nA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 4 V, I_C = 0$		250		nA
h_{FE}	Static Forward Current Transfer Ratio	$V_{CE} = 2.5 V, I_C = 150 mA$	See Note 5	25		
		$V_{CE} = 10 V, I_C = 150 mA$		50	250	
V_{BE}	Base-Emitter Voltage	$V_{CE} = 2.5 V, I_C = 150 mA$	See Note 5		1.7	V
		$I_B = 15 mA, I_C = 150 mA$			1.7	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_B = 15 mA, I_C = 150 mA$, See Note 5			1.4	V
$ h_{fe} $	Small-Signal Common-Emitter Forward Current Transfer Ratio	$V_{CE} = 10 V, I_C = 50 mA, f = 20 MHz$		5		
C_{obo}	Common-Base Open-Circuit Output Capacitance	$V_{CB} = 10 V, I_E = 0, f = 140 kHz$		15		pF
C_{ibo}	Common-Base Open-Circuit Input Capacitance	$V_{EB} = 0.5 V, I_C = 0, f = 140 kHz$		80		pF

* JEDEC registered data. This data sheet contains all applicable registered data in effect at the time of publication.

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