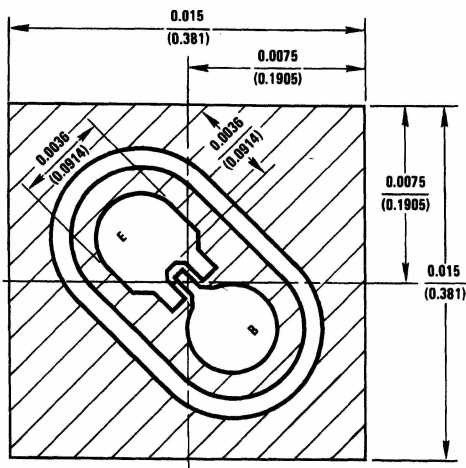




TL/G/10038-59

DESCRIPTION

Process 75 is an overlay, double-diffused, silicon epitaxial device. Complement to Process 43.

APPLICATION

This device was designed for radio frequency applications to collector currents to 20 mA.

PRINCIPAL DEVICE TYPES

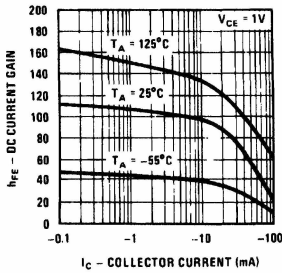
TO-92 EBC: PN5208

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

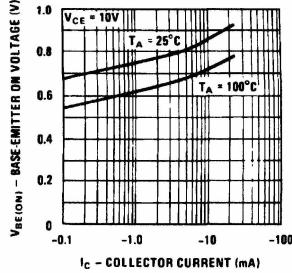
Symbol	Conditions	Min	Typ	Max	Units
C_{ob}	$V_{CB} = 10\text{V}$		1.6	2.0	pF
C_{ib}	$V_{EB} = 0.5\text{V}$			3.5	pF
h_{fe}	$V_{CE} = 10\text{V}$, $I_C = 10\text{mA}$, $f = 100\text{MHz}$	6.5	9.0		
h_{FE}	$I_C = 5\text{mA}$, $V_{CE} = 5\text{V}$ $I_C = 10\text{mA}$, $V_{CE} = 5\text{V}$	30 40	85	180	
$V_{CE(SAT)}$	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$			0.20	V
$V_{BE(SAT)}$	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$			0.95	V
BV_{CEO}	$I_C = 3\text{mA}$	18			V
BV_{CBO}	$I_C = 100\mu\text{A}$	18			V
BV_{EBO}	$I_C = 10\mu\text{A}$	4.5			V
I_{CBO}	$V_{CB} = 10\text{V}$			100	nA
I_{EBO}	$V_{EB} = 3\text{V}$			100	nA
$P_{D(max)}$ TO-92 TO-236	$T_A = 25^\circ\text{C}$ $T_C = 25^\circ\text{C}$	600 350			mW mW
$T_{J(max)}$	All Plastic Parts	150			$^\circ\text{C}$

Process 75

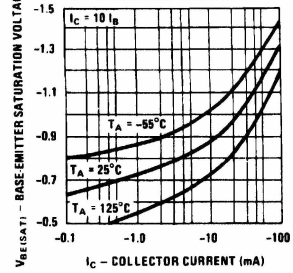
DC Current Gain vs Collector Current



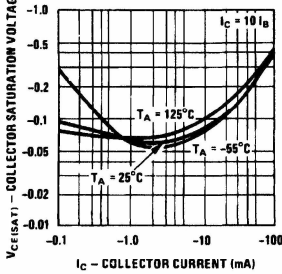
Base-Emitter ON Voltage vs Collector Current



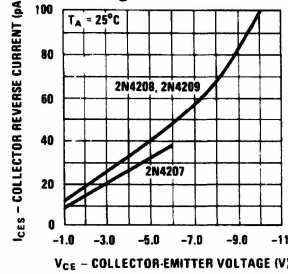
Base Saturation Voltage vs Collector Current



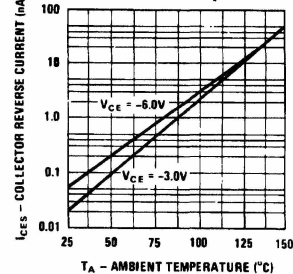
Collector Saturation Voltage vs Collector Current



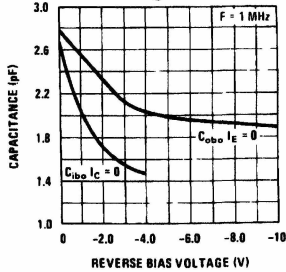
Collector Reverse Current vs Collector-Emitter Voltage



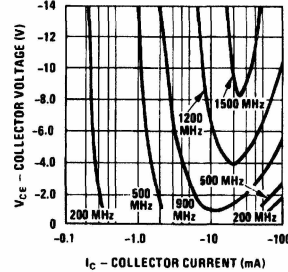
Collector Reverse Current vs Ambient Temperature



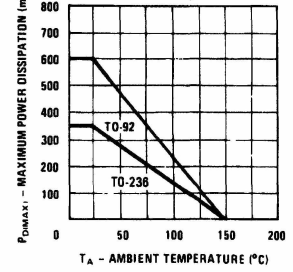
Input and Output Capacitance vs Reverse Bias Voltage



Contours of Constant Gain Bandwidth Product (f_T)



Maximum Power Dissipation vs Ambient Temperature



TL/G/10038-60