



TL/G/10034-8

DESCRIPTION

Process 11 is a non-overlay, double-diffused, silicon epitaxial device. Complement to Process 69.

APPLICATION

This device was designed for general purpose amplifier applications at collector currents to 300 mA.

PRINCIPAL DEVICE TYPES
TO-92 EBC: PN101

TO-236: MMBT101

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

Symbol	Conditions	Min	Typ	Max	Units
C_{ob}	$V_{CB} = 10\text{V}, f = 1\text{MHz}$		3.0	4.0	pF
C_{ib}	$V_{EB} = 0.5\text{V}, f = 1\text{MHz}$		16	25	pF
NF	$I_C = 100\ \mu\text{A}, V_{CE} = 5\text{V}$ $R_S = 2\ \text{k}\Omega, f = 1\ \text{kHz}$		2.0		dB
f_T	$V_{CE} = 10\text{V}, I_C = 20\ \text{mA}$	150	250		MHz
h_{FE}	$V_{CE} = 1.0\text{V}, I_C = 1\ \text{mA}$ $V_{CE} = 1.0\text{V}, I_C = 100\ \text{mA}$ $V_{CE} = 1.0\text{V}, I_C = 150\ \text{mA}$	40 100 75	200	400	
$V_{CE(SAT)}$	$I_C = 150\ \text{mA}, I_B = 15\ \text{mA}$			0.5	V
$V_{BE(SAT)}$	$I_C = 150\ \text{mA}, I_B = 15\ \text{mA}$			1.0	V
BV_{CBO}	$I_C = 10\ \mu\text{A}$	80			
BV_{CEO}	$I_C = 1\ \text{mA}$	65			
BV_{EBO}	$I_E = 10\ \mu\text{A}$	6.0			
I_{CBO}	$V_{CB} = 60\text{V}$			50	nA
I_{CES}	$V_{CE} = 60\text{V}$			50	nA
I_{EBO}	$V_{EB} = 4.0\text{V}$			50	nA
$P_D^{(max)}$ TO-92 TO-236	$T_A = 25^\circ\text{C}$ $T_C = 25^\circ\text{C}$	600 350			mW mW

