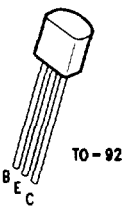
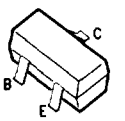
National Semiconductor

MPSH20



TL/G/10100-3

MMBTH20



TO-236
(SOT-23)

TL/G/10100-5

NPN RF Transistor

Electrical Characteristics T_A = 25°C unless otherwise noted

Symbol	Parameter	Min	Typ	Max	Units
OFF CHARACTERISTICS					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage (I_C = 1.0 mAdc, I_B = 0)	30			Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage (I_C = 100 μAdc, I_E = 0)	40			Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage (I_E = 10 μAdc, I_C = 0)	4.0			Vdc
I_{CBO}	Collector Cutoff Current (V_{CB} = 15 Vdc, I_E = 0)			50	nAdc
ON CHARACTERISTICS					
h_{FE}	DC Current Gain (I_C = 4.0 mAdc, V_{CE} = 10 Vdc)	25			
SMALL-SIGNAL CHARACTERISTICS					
f_T	Current-Gain—Bandwidth Product (I_C = 4.0 mAdc, V_{CE} = 10 Vdc, f = 100 MHz)	400	620		MHz
C_{cb}	Collector-Base Capacitance (V_{CB} = 10 Vdc, I_E = 0, f = 1.0 MHz)		0.5	0.65	pF
$rb'C_c$	Collector-Base Time Constant I_E = 4.0 mAdc, V_{CB} = 10 Vdc, f = 31.8 MHz)		10		ps
	Conversion Gain (213 MHz to 45 MHz) (I_C = 4.0 mAdc, V_{CE} = 10 Vdc, Oscillator Injection = 200 mVdc)	18	23		dB

Note 1: Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.

Note 2: For characteristics curves, see Process 49.