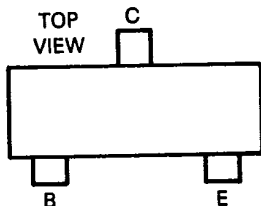


DEVICE NO. **MMBC1321Q2** thru  
**MMBC1321Q5**  
 SMALL-SIGNAL NPN TRANSISTORS



- Designed for VHF/RF Amplifier, low-noise, high-gain bandwidth applications.

**MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CE0}$	25	Vdc
Collector-Base Voltage	$V_{CBO}$	30	Vdc
Emitter-Base Voltage	$V_{EB}$	4.0	Vdc
Collector Current	$I_C$	10	mAdc

Device	Marking
MMBC1321Q2	Q2
MMBC1321Q3	Q3
MMBC1321Q4	Q4
MMBC1321Q5	Q5

**ELECTRICAL CHARACTERISTICS** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

Parameter	Test Conditions	Min	Typ	Max	Unit
$I_{CBO}$	$V_{CB} = 25 \text{ Vdc}, I_E = 0$	—	—	0.1	$\mu\text{Adc}$
$I_{EBO}$	$V_{EB} = 4.0 \text{ Vdc}, I_C = 0$	—	—	0.1	$\mu\text{Adc}$
$h_{FE}$	$I_C = 2.0 \text{ mAdc}, V_{CE} = 6.0 \text{ Vdc}$				
	MMBC1321Q2	40	—	80	—
	MMBC1321Q3	60	—	120	—
	MMBC1321Q4	90	—	180	—
	MMBC1321Q5	135	—	270	—
$V_{CE(sat)}$	$I_C = 10 \text{ mAdc}, I_B = 1.0 \text{ mAdc}$	—	—	0.6	Vdc
$f_T$	$I_C = 2.0 \text{ mAdc}, V_{CE} = 6.0 \text{ Vdc}, f = 100 \text{ MHz}$	600	—	900	MHz
$C_{ob}$	$V_{CB} = 6.0 \text{ Vdc}, I_E = 0, f = 100 \text{ MHz}$	—	1.3	1.8	pF
NF	$V_{CE} = 6.0 \text{ Vdc}, I_E = 2.0 \text{ mAdc}, f = 900 \text{ MHz}, R_G = 50 \Omega$	—	5.0	—	dB