

2N1711, 2N1890 JAN SERIES

Characteristics	Symbol	Min.	Max.	Unit
ON CHARACTERISTICS ⁽³⁾				
Forward-Current Transfer Ratio $I_C = 10 \mu\text{Adc}, V_{CE} = 10 \text{ Vdc}$ $I_C = 150 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$ $I_C = 500 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$ 2N1711, S	h_{FE}	20 100 50	300	
Collector-Emitter Saturation Voltage $I_C = 150 \text{ mAdc}, I_B = 15 \text{ mAdc}$ 2N1711, S 2N1890, S $I_C = 50 \text{ mAdc}, I_B = 5.0 \text{ mAdc}$ 2N1890, S	$V_{CE(sat)}$		1.5 5.0 1.2	Vdc
Base-Emitter Saturation Voltage $I_C = 150 \text{ mAdc}, I_B = 15 \text{ mAdc}$ $I_C = 50 \text{ mAdc}, I_B = 5.0 \text{ mVdc}$ 2N1890, S	$V_{BE(sat)}$		1.3 0.9	Vdc
DYNAMIC CHARACTERISTICS				
Small-Signal Short-Circuit Forward-Current Transfer Ratio $I_C = 1.0 \text{ mAdc}, V_{CE} = 5.0 \text{ Vdc}$ $I_C = 5.0 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}$	h_{fe}	80 90	200 270	
Magnitude of Common Emitter Small-Signal Short-Circuit Forward-Current Transfer Ratio $I_C = 50 \text{ mAdc}, V_{CE} = 10 \text{ Vdc}; f = 20 \text{ MHz}$	$ h_{fe} $	3.5	12	
Small-Signal Short-Circuit Input Impedance $I_C = 5.0 \text{ mAdc}, V_{CB} = 10 \text{ Vdc}$	h_{ib}	4.0	8.0	Ω
Small-Signal Short-Circuit Output Admittance $I_C = 5.0 \text{ mAdc}, V_{CB} = 10 \text{ Vdc}$ 2N1711, S 2N1890, S	h_{ob}		1.0 .03	$\mu\Omega$
Output Capacitance $V_{CB} = 10 \text{ Vdc}, I_E = 0, 100 \text{ kHz} \leq f \leq 1.0 \text{ MHz}$ 2N1711, S 2N1890, S	C_{obo}	8.0 5.0	25 15	pF
SWITCHING CHARACTERISTICS				
Turn-On Time + Turn-Off Time (See figure 1 of MIL-PRF-19500/225)	$t_{on} + t_{off}$		30	ηs

(3) Pulse Test: Pulse Width 250 to 350 μs , Duty Cycle $\leq 2.0\%$.

