

**DYNAMIC CHARACTERISTICS** $T_c = 25^\circ\text{C}$

SYMBOL	TEST CONDITIONS			MINIMUM	TYPICAL	MAXIMUM	UNITS
f_t	$V_{CE} = 20\text{ V}$	$I_C = 20\text{ mA}$	$f = 100\text{ MHz}$	300			MHz
C_{ob}	$V_{CB} = 10\text{ V}$		$f = 100\text{ KHz}$			8.0	pF
C_{ib}	$V_{EB} = 0.5\text{ V}$		$f = 100\text{ KHz}$			25	pF
h_{ie}	$V_{CE} = 10\text{ V}$	$I_C = 1.0\text{ mA}$ $I_C = 10\text{ mA}$	$f = 1.0\text{ KHz}$ $f = 1.0\text{ KHz}$	1,000 250		3,500 1,250	Ohms
h_{re}	$V_{CE} = 10\text{ V}$	$I_C = 1.0\text{ mA}$ $I_C = 10\text{ mA}$	$f = 1.0\text{ KHz}$ $f = 1.0\text{ KHz}$				
h_{oe}	$V_{CE} = 10\text{ V}$	$I_C = 1.0\text{ mA}$ $I_C = 10\text{ mA}$	$f = 1.0\text{ KHz}$ $f = 1.0\text{ KHz}$	5.0 25		35 200	μmhos
h_{fe}	$V_{CE} = 10\text{ V}$	$I_C = 1.0\text{ mA}$ $I_C = 10\text{ mA}$	$f = 1.0\text{ KHz}$ $f = 1.0\text{ KHz}$	50 75		300 375	---
$r_b'c_c$	$V_{CE} = 20\text{ V}$	$I_E = 20\text{ mA}$	$f = 31.8\text{ MHz}$			150	pS
$R_e(h_{ie})$	$V_{CE} = 20\text{ V}$	$I_C = 20\text{ mA}$	$f = 300\text{ MHz}$			60	Ohms
t_d	$V_{CC} = 30\text{ V}$ $V_{BE} = -0.5\text{ V}$	$I_C = 150\text{ mA}$ $I_{B1} = 15\text{ mA}$				10	nS
t_r	$V_{CC} = 30\text{ V}$ $V_{BE} = -0.5\text{ V}$	$I_C = 150\text{ mA}$ $I_{B1} = 15\text{ mA}$				25	nS
t_s	$V_{CC} = 30\text{ V}$	$I_C = 150\text{ mA}$	$I_{B1} = I_{B2} = 15\text{ mA}$			225	nS
t_f	$V_{CC} = 30\text{ V}$	$I_C = 150\text{ mA}$	$I_{B1} = I_{B2} = 15\text{ mA}$			60	nS