Elektronische Bauelemente

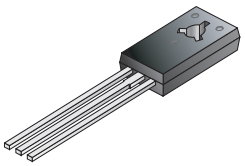
MJE170 / MJE171 / MJE172

PNP General Purpose Transistor

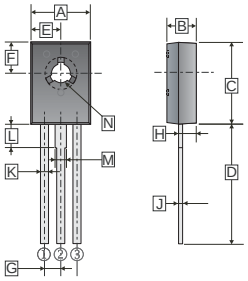
RoHS Compliant Product

A suffix of "-C" specifies halogen and lead free

TO-126



①Emitter
②Collector
③Base



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	7.40	7.80	H	1.10	1.50
B	2.50	2.90	J	0.45	0.60
C	10.60	11.00	K	0.66	0.86
D	15.30	15.70	L	2.10	2.30
E	3.70	3.90	M	1.17	1.37
F	3.90	4.10	N	3.00	3.20
G	2.29 TYP.				

FEATURES

- Low frequency amplifier
- Low current
- High speed switching applications

ABSOLUTE MAXIMUM RATINGS (T_a = 25°C unless otherwise specified)

Parameter		Symbol	Ratings	Unit
Collector - Base Voltage	MJE170	V_{CBO}	-60	V
	MJE171		-80	
	MJE172		-100	
Collector - Emitter Voltage	MJE170	V_{CEO}	-40	V
	MJE171		-60	
	MJE172		-80	
Emitter - Base Voltage		V_{EBO}	-7	V
Collector Current -Continuous		I_C	-3	A
Cpllector Power Dissipation		P_C	1.5	W
Junction, Storage Temperature		T_J, T_{STG}	+150, -65 ~ +150	°C

ELECTRICAL CHARACTERISTICS (T_a = 25°C unless otherwise specified)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector - Base Breakdown Voltage	MJE170	$V_{(BR)CBO}$	-60	-	-	V	I_C = -1mA, I_E = 0
	MJE171		-80	-	-		
	MJE172		-100	-	-		
Collector - Emitter Breakdown Voltage	MJE170	$V_{(BR)CEO}$	-40	-	-	V	I_C = -10 mA, I_B = 0
	MJE171		-60	-	-		
	MJE172		-80	-	-		
Emitter - Base Breakdown Voltage		$V_{(BR)EBO}$	-7	-	-	V	I_E = -1mA, I_C = 0
Collector Cut - Off Current	MJE170	I_{CBO}	-	-	-0.1	μA	V_{CB} = -60V, I_E = 0
	MJE171		-	-	-0.1		V_{CB} = -80V, I_E = 0
	MJE172		-	-	-0.1		V_{CB} = -100V, I_E = 0

Emitter Cut - Off Current	I_{EBO}	-	-	0.1	μA	V_{EB} = -7V, I_C = 0
DC Current Gain	$h_{FE(1)}$	50	-	250		V_{CE} = -1V, I_C = -100 mA
	$h_{FE(2)}$	30	-	-		V_{CE} = -1V, I_C = -500 mA
	$h_{FE(3)}$	12	-	-		V_{CE} = -1V, I_C = -1.5A
Collector - Emitter Saturation Voltage	$V_{CE(sat)1}$	-	-	-0.3	V	I_C = -500mA, I_B = -50 mA
	$V_{CE(sat)2}$	-	-	-0.9	V	I_C = -1.5A, I_B = -150 mA
	$V_{CE(sat)3}$	-	-	-1.7	V	I_C = -3A, I_B = -600 mA
Base – Emitter Saturation Voltage	$V_{BE(sat)1}$	-	-	-1.5	V	I_C = -1.5A, I_B = -150 mA
	$V_{BE(sat)2}$	-	-	-2	V	I_C = -3A, I_B = -600 mA
Base – Emitter Voltage	V_{BE}	-	-	-1.2	V	V_{CE} = -1V, I_C = -500 mA
Transition Frequency	f_T	50	-	-	MHz	V_{CE} = -10V, I_C = -100 mA
Collector output capacitance	C_{OB}	-	-	50	pF	V_{CB} = -10V, I_E = 0, f = 0.1MHz

CHARACTERISTIC CURVES

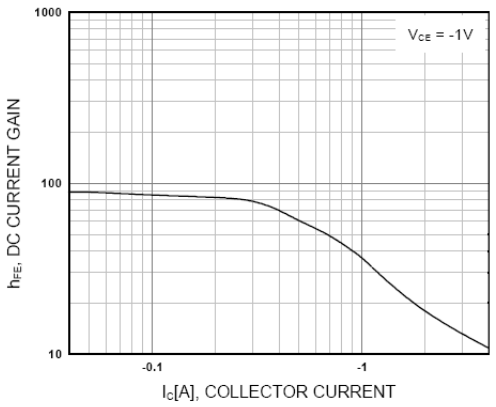


Figure 1. DC current Gain

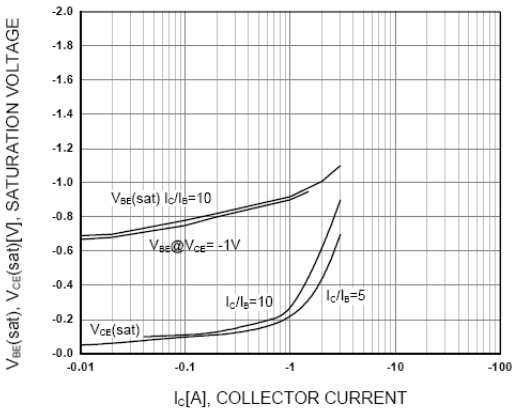


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

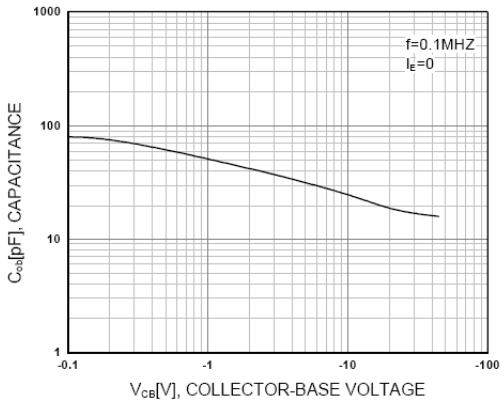


Figure 3. Collector Output Capacitance

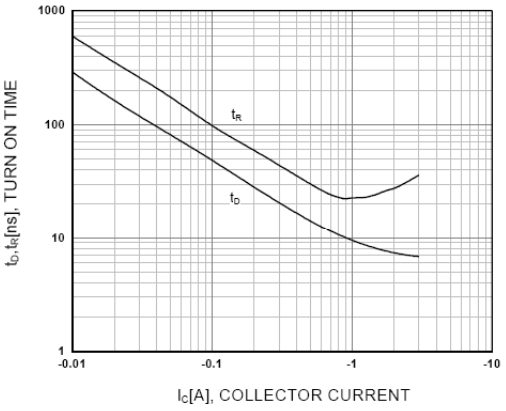


Figure 4. Turn On Time

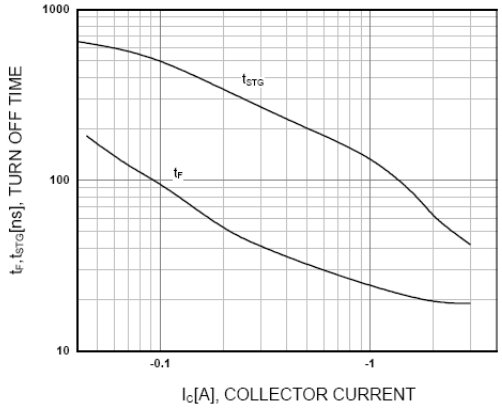


Figure 5. Turn Off Time

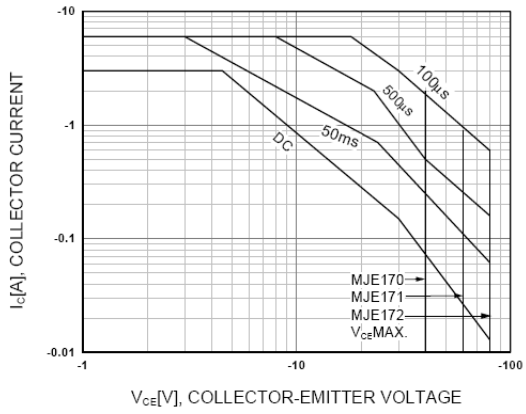


Figure 6. Safe Operating Area