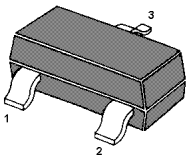
MMBTSD2114

NPN Silicon Epitaxial Planar Transistor



1. Base 2. Emitter 3. Collector
TO-236 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	25	V
Collector Emitter Voltage	V_{CEO}	20	V
Emitter Base Voltage	V_{EBO}	12	V
Collector Current	I_C I_{CP}	0.5 1 [1)]	A
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

[1)] Single pulse, Pw = 100 ms

Characteristics at T_a = 25 °C

Parameter			Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE} = 3 V, I_C = 100 mA	Current Gain Group	V W	h_{FE}	820 1200	- -	1800 2700	-
Collector Base Cutoff Current at V_{CB} = 20 V			I_{CBO}	-	-	500	nA
Emitter Base Cutoff Current at V_{EB} = 10 V			I_{EBO}	-	-	500	nA
Collector Base Breakdown Voltage at I_C = 10 µA			$V_{(BR)CBO}$	25	-	-	V
Collector Emitter Breakdown Voltage at I_C = 1 mA			$V_{(BR)CEO}$	20	-	-	V
Emitter Base Breakdown Voltage at I_E = 10 µA			$V_{(BR)EBO}$	12	-	-	V
Collector Emitter Saturation Voltage at I_C = 500 mA, I_B = 20 mA			$V_{CE(sat)}$	-	-	400	mV
Transition Frequency at V_{CE} = 10 V, $-I_E$ = 50 mA, f = 100 MHz			f_T	-	350	-	MHz
Output Capacitance at V_{CB} = 10 V, I_E = 0 A, f = 1 MHz			C_{ob}	-	8	-	pF

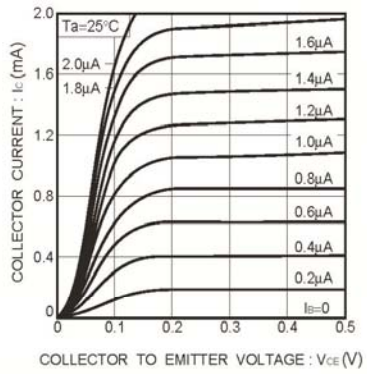


Fig.1 Grounded emitter output characteristics (Ⅰ)

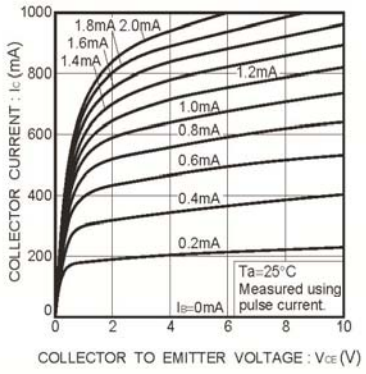


Fig.2 Grounded emitter output characteristics (Ⅱ)

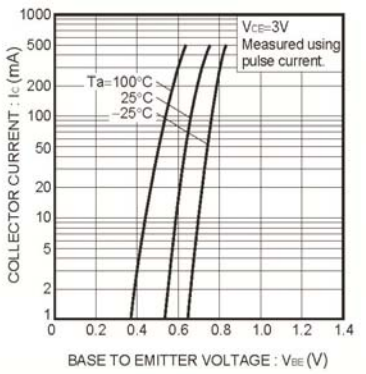


Fig.3 Grounded emitter propagation characteristics

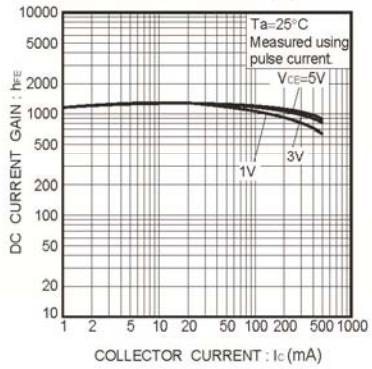


Fig.4 DC current gain vs. collector current (Ⅰ)

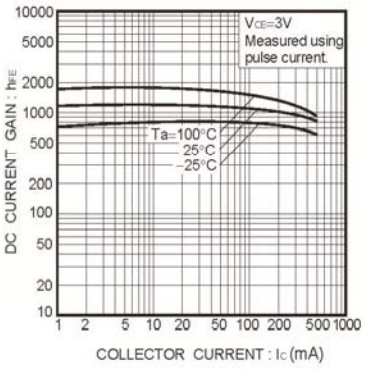


Fig.5 DC current gain vs. collector current (Ⅱ)

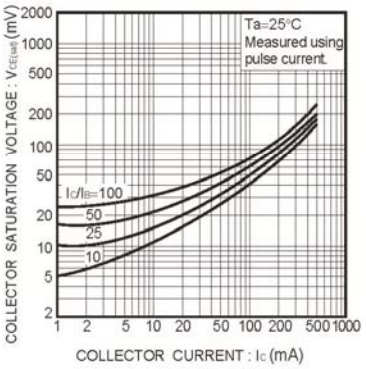


Fig.6 Collector-emitter saturation voltage vs. collector current (Ⅰ)