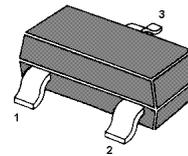


MMBTSD2114

NPN Silicon Epitaxial Planar Transistor



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

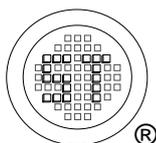
Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CB0}	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	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

¹⁾ Single pulse, $P_w = 100\text{ ms}$

Characteristics at $T_a = 25\text{ }^\circ\text{C}$

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



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 ISO 14001:2004 Certificate No. 7116
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 IECQ QC 080000 Certificate No. PRC-18P14-148-1

Dated: 16/04/2015 Rev: 01

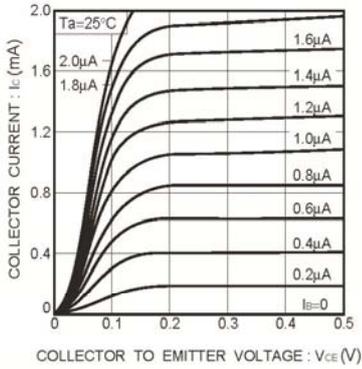


Fig. 1 Grounded emitter output characteristics (I)

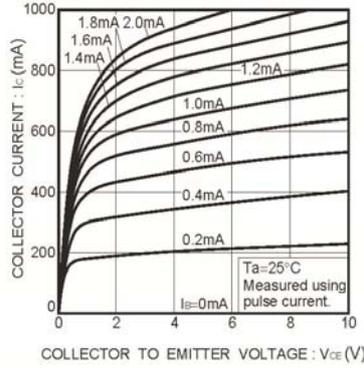


Fig. 2 Grounded emitter output characteristics (II)

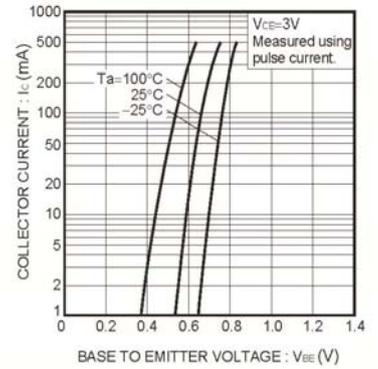


Fig. 3 Grounded emitter propagation characteristics

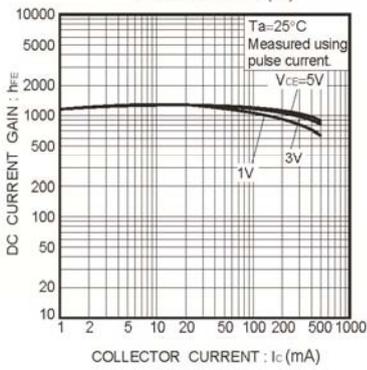


Fig. 4 DC current gain vs. collector current (I)

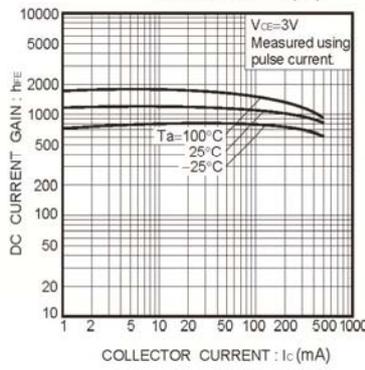


Fig. 5 DC current gain vs. collector current (II)

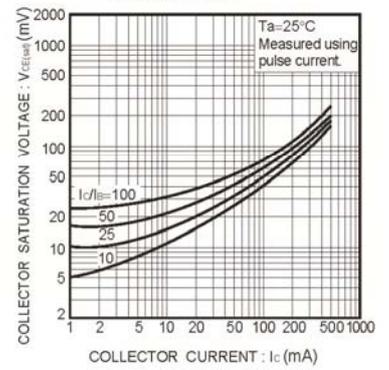
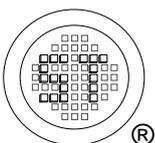


Fig. 6 Collector-emitter saturation voltage vs. collector current (I)



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