

SMD Type

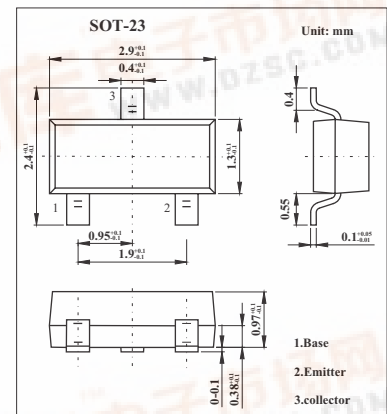
Transistors

PNP Transistors

KMBT3906(MMBT3906)

■ Features

- Epitaxial planar die construction



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

Parameter	Symbol	Rating	Unit
Collector- Base Voltage	V_{CB0}	-40	V
Collector - Emitter Voltage	V_{CE0}	-40	V
Emitter - Base Voltage	V_{EB0}	-5	V
Collector Current- Continuous	I_c	-0.2	A
Collector Dissipation	P_c	0.3	W
Junction and Storage Temperature	T_J, T_{stg}	-55 to 150	$^\circ\text{C}$

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector - base breakdown voltage	V_{CB0}	$I_c = -100\ \mu\text{A}, I_E = 0$	-40			V
Collector - emitter breakdown voltage	V_{CE0}	$I_c = -1\ \text{mA}, I_B = 0$	-40			V
Emitter- base breakdown voltage	V_{EB0}	$I_E = -100\ \mu\text{A}, I_c = 0$	-5			V
Collector cut-off current	I_{cB0}	$V_{CB} = -40\ \text{V}, I_E = 0$			-0.1	μA
Collector cut-off current	I_{cE0}	$V_{CE} = -40\ \text{V}, V_{BE(off)} = -3\text{V}$			-50	nA
Emitter cut-off current	I_{EB0}	$V_{EB} = -5\text{V}, I_c = 0$			-0.1	μA
DC current gain	h_{FE}	$V_{CE} = -1\text{V}, I_c = -10\text{mA}$	100		300	
		$V_{CE} = -1\text{V}, I_c = -50\text{mA}$	60			
Collector- emitter saturation voltage	$V_{CE(sat)}$	$I_c = -50\ \text{mA}, I_B = -5\text{mA}$			-0.3	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_c = -50\ \text{mA}, I_B = -5\text{mA}$			-0.95	V
Delay time	t_d	$V_{CC} = -3.0\text{V}, V_{BE} = 0.5\text{V}$			35	ns
Rise time	t_r	$I_c = -10\text{mA}, I_{B1} = -1.0\text{mA}$			35	ns
Storage time	t_s	$V_{CC} = -3.0\text{V}, I_c = -10\text{mA}$			225	ns
Fall time	t_f	$I_{B1} = I_{B2} = -1.0\text{mA}$			75	ns
Transition frequency	f_T	$V_{CE} = -20\text{V}, I_c = -10\text{mA}, f = 100\text{MHz}$	250			MHz

■ Marking

Marking	2A
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■ Typical Characteristics

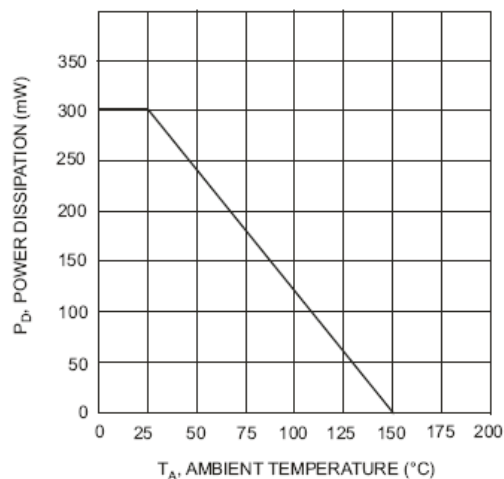


Fig.1 Max Power Dissipation vs Ambient Temperature

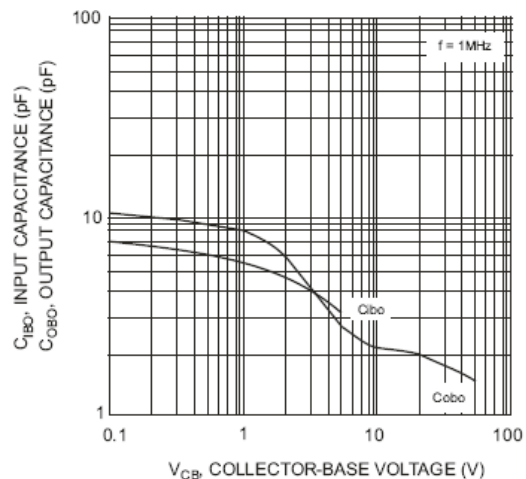


Fig.2 Input and Output Capacitance vs. Collector-Base Voltage

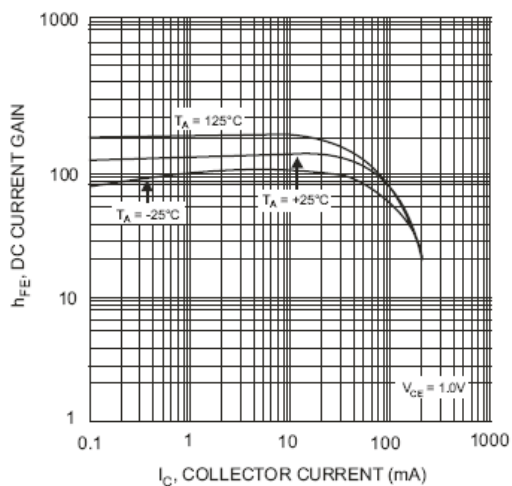


Fig.3 Typical DC Current Gain vs Collector Current

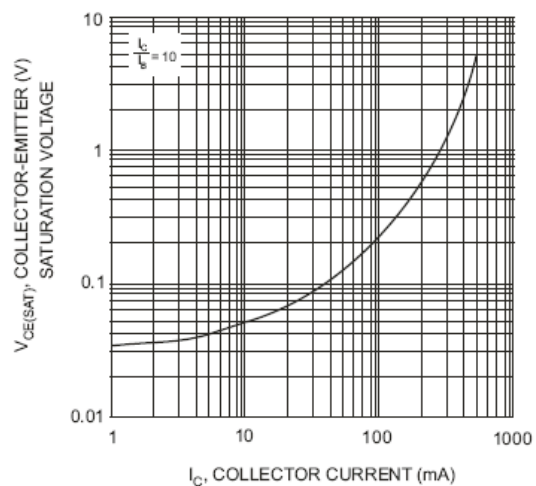


Fig.4 Typical Collector-Emitter Saturation Voltage vs. Collector Current

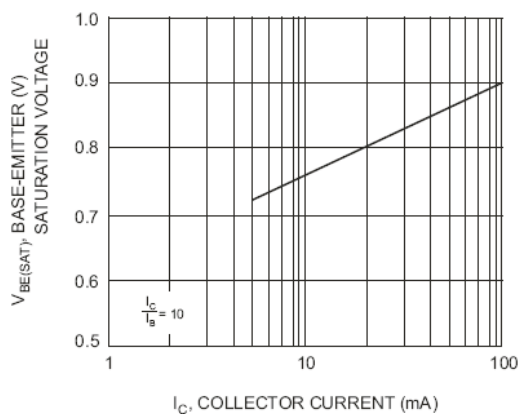


Fig.5 Typical Base-Emitter Saturation Voltage vs. Collector Current