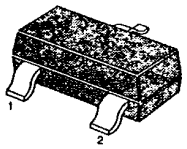
MMBT4123 NPN EPITAXIAL SILICON TRANSISTOR

T-29-19

GENERAL PURPOSE TRANSISTOR

SOT-23



1. Base 2. Emitter 3. Collector

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	200	mA
Collector Dissipation	P_C	350	mW
Storage Temperature	Tstg	150	°C
Thermal Resistance Junction to Ambient	Rth(j-a)	357	°C/W

ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Condition	Min	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=10μA, I_E=0	40		V
*Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=1mA, I_E=0	30		V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=10μA, I_C=0	5		V
Collector Cutoff Current	I_{CBO}	V_{CB}=20V, I_E=0		50	nA
Emitter Cutoff Current	I_{EBO}	V_{BE}=3V, I_C=0		50	nA
* DC Current Gain	h_{FE}	V_{CE}=1V, I_C=2mA	50	150	
		V_{CE}=1V, I_C=50mA	25		
*Collector-Emitter Saturation Voltage	V_{CE} (sat)	I_C=50mA, I_B=5mA		0.3	V
*Base-Emitter Saturation Voltage	V_{BE} (sat)	I_C=50mA, I_B=5mA		0.95	V
Current Gain-Bandwidth Product	f_T	V_{CE}=20V, I_C=10mA, f=100MHz	250		MHz
Collector Output Capacitance	Cob	V_{CB}=5V, I_E=0, f=100MHz		4	pF
Collector Input Capacitance	Cib	V_{BE}=0.5V, I_C=0, f=100KHz		8	pF
Collector-Base Capacitance	Ccb	V_{CB}=5V, I_E=0, f=100KHz		4	pF
Noise Figure	NF	V_{CE}=5V, I_C=100μA, Rs=1kΩ Noise Bandwidth=10Hz to 15.7KHz		6	dB

* Pulse Test: PW≤300μs, Duty Cycle≤2%

Marking