



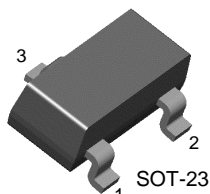
THE DATASHEET OF MMBT4403K



MMBT4403K

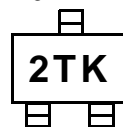
PNP Epitaxial Silicon Transistor

Switching Transistor



1. Base 2. Emitter 3. Collector

Marking



Absolute Maximum Ratings T_a = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage	-40	V
V _{CEO}	Collector-Emitter Voltage	-40	V
V _{EBO}	Emitter-Base Voltage	-5	V
I _C	Collector Current	-600	mA
P _C	Collector Power Dissipation	350	mW
T _J , T _{STG}	Operating Junction and Storage Temperature Range	-55 ~ 150	°C

Electrical Characteristics T_a = 25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
BV _{CBO}	Collector-Base Breakdown Voltage	I _C = -0.1mA, I _E = 0	-40		V
BV _{CEO}	Collector-Emitter Breakdown Voltage *	I _C = -1.0mA, I _B = 0	-40		V
BV _{EBO}	Emitter-Base Breakdown Voltage	I _E = -0.1mA, I _C = 0	-5		V
I _{BL}	Base Cut-off Current	V _{CE} = -35V, V _{EB} = -0.4V		-0.1	μA
I _{CEX}	Collector Cut-off Current	V _{CE} = -35V, V _{EB} = -0.4V		-0.1	μA
h _{FE}	DC Current Gain	V _{CE} = -1V, I _C = -0.1mA V _{CE} = -1V, I _C = -1.0mA V _{CE} = -1V, I _C = -10mA V _{CE} = -2V, I _C = -150mA * V _{CE} = -2V, I _C = -500mA *	30 60 100 100 20	300	
V _{CE(sat)}	Collector-Emitter Saturation Voltage *	I _C = -150mA, I _B = -15mA I _C = -500mA, I _B = -50mA		-0.4 -0.75	V V
V _{BE(sat)}	Base-Emitter Saturation Voltage *	I _C = -150mA, I _B = -15mA I _C = -500mA, I _B = -50mA	-0.75	-0.95 -1.3	V V
f _T	Current Gain Bandwidth Product	I _C = -20mA, V _{CE} = -10V, f = 100MHz	200		MHz
C _{ob}	Output Capacitance	V _{CB} = -10V, I _E = 0, f = 140KHz		8.5	pF
t _{ON}	Turn On Time	V _{CC} = -30V, V _{BE} = -2V I _C = -150mA, I _{B1} = -15mA		35	ns
t _{OFF}	Turn Off Time	V _{CC} = -30V, I _C = -150mA I _{B1} = I _{B2} = -15mA		255	ns

* Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%

Typical Performance Characteristics

Figure 1. DC current Gain

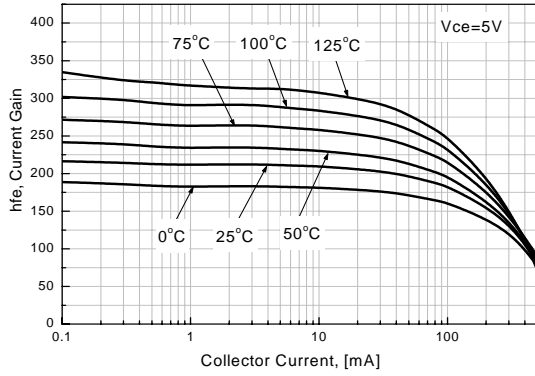


Figure 2. Collector-Emitter Saturation Voltage

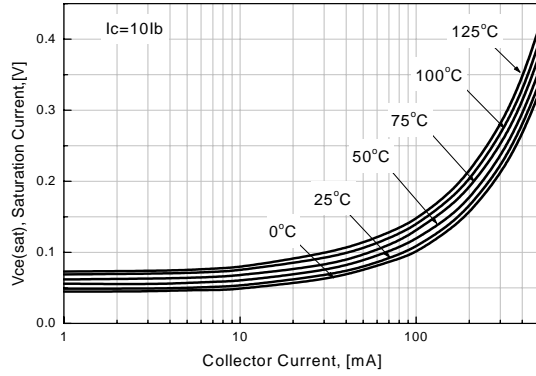


Figure 3. Base-Emitter Saturation Voltage

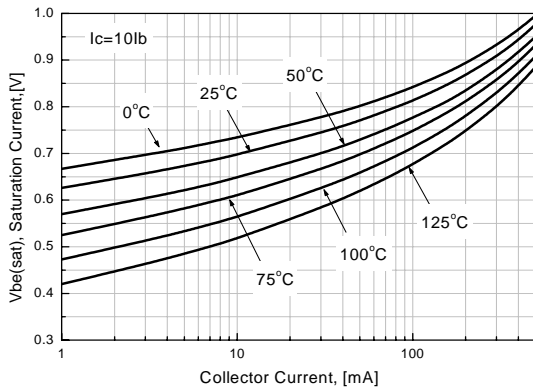


Figure 4. Collector - Base Leakage Current

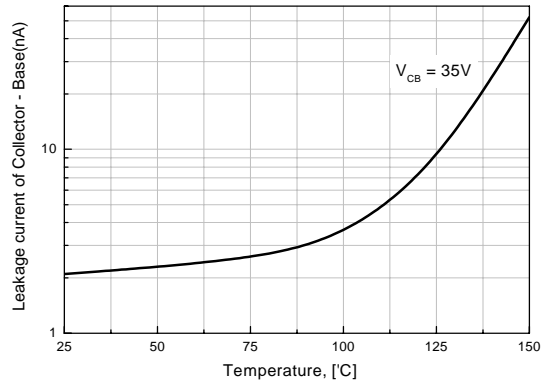


Figure 5. Collector-Base Capacitance

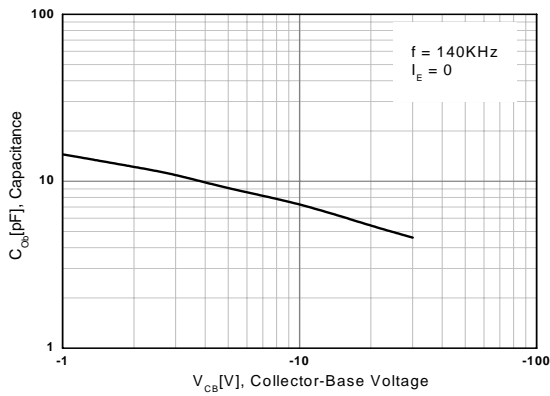
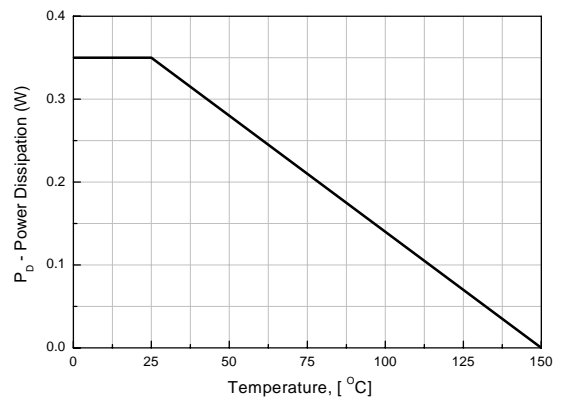
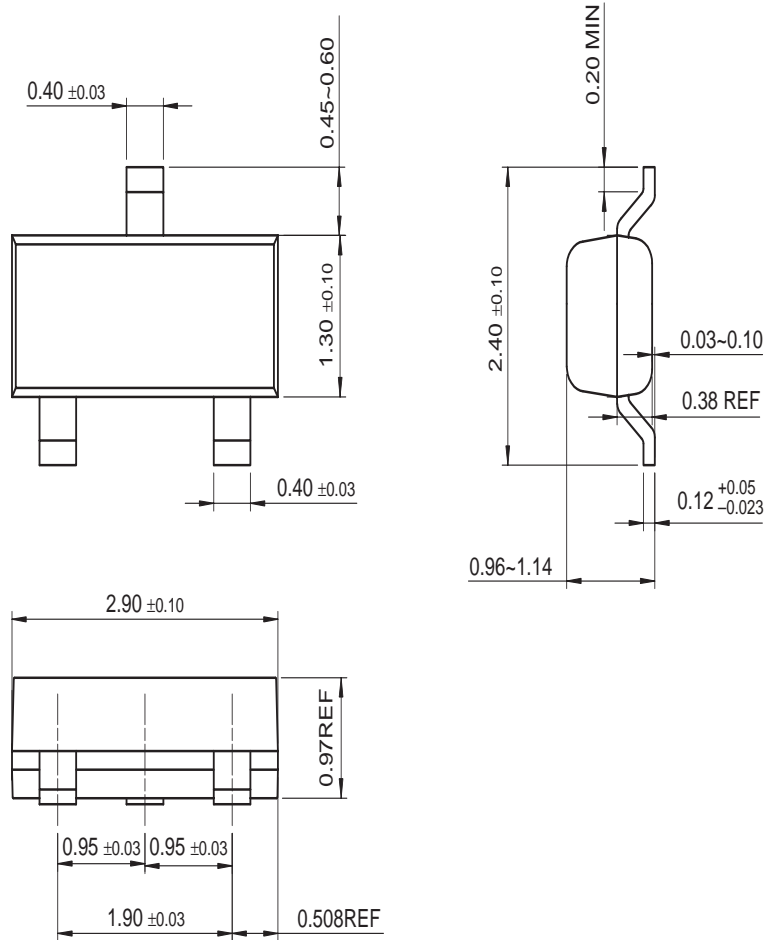


Figure 6. Power Dissipation vs Ambient Temperature



Mechanical Dimensions

SOT-23



Dimensions in Millimeters

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Programmable Active Droop™				

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