

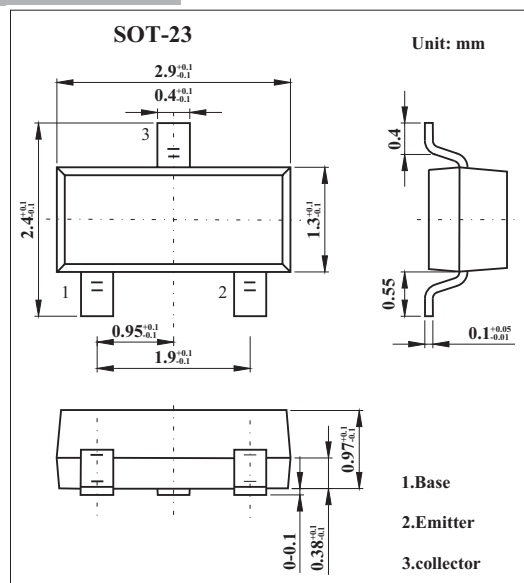
SOT-23 Plastic-Encapsulate Transistors

FEATURES

- Epitaxial planar die construction.
- Complementary NPN type available (MMBT4401).
- Also available in lead free version.
- Ideal for medium power amplification and switching.
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- PNP General Purpose Transistor

MECHANICAL DATA

- Case style: SOT-23 molded plastic
- Mounting position: any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Symbol	Parameter	Value	UNIT
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 (DC)	-0.6	A
P_C	Collector dissipation	0.35	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	°C/W
T_j, T_{stg}	junction and storage temperature	-55 to +150	°C

PACKAGE INFORMATION

Device	Package	Shipping
MMBT4403	SOT-23	3000/Tape&Reel

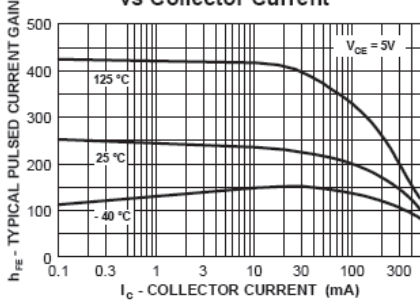
Symbol	Parameter	Test conditions	MIN.	MAX.	UNIT
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C = -100\mu A, I_E = 0$	-40		
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C = -1mA, I_B = 0$	-40		
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = -100\mu A, I_C = 0$	-5		
I_{CEX}	collector cut-off current	$V_{CE} = -35V, V_{BE} = 0.4V$		-0.1	μA
I_{BL}	Base cut-off current	$V_{CE} = -35V, V_{BE} = -0.4V$		-0.1	μA
h_{FE}	DC current gain	$V_{CE} = -1V; I_C = -0.1mA$ $V_{CE} = -1V; I_C = -1mA$ $V_{CE} = -1V; I_C = -10mA$ $V_{CE} = -2V; I_C = -150mA$ $V_{CE} = -2V; I_C = -500mA$	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
$V_{BE(sat)}$	base-emitter saturation voltage	$I_C = -150mA; I_B = -15mA$ $I_C = -500mA; I_B = -50mA$	-0.75	-0.95 -1.3	V
f_T	transition frequency	$I_C = -20mA; V_{CE} = -10V;$ $f = 100MHz$	200	-	MHz

■ Marking

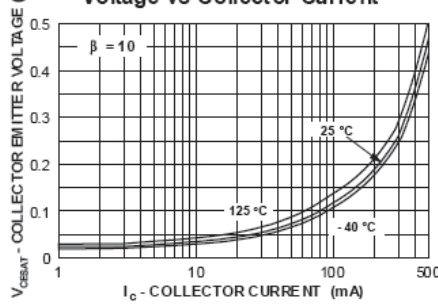
Marking	2T
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RATINGS AND CHARACTERISTIC CURVES

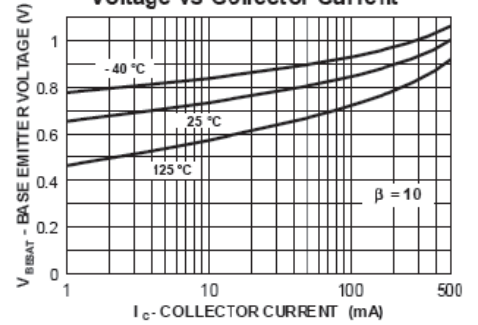
Typical Pulsed Current Gain vs Collector Current



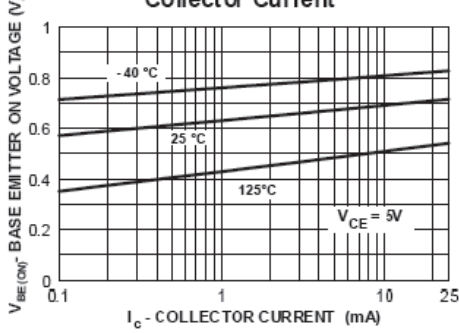
Collector-Emitter Saturation Voltage vs Collector Current



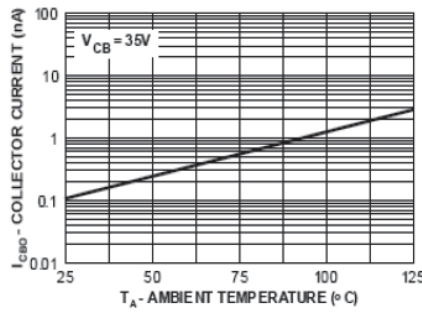
Base-Emitter Saturation Voltage vs Collector Current



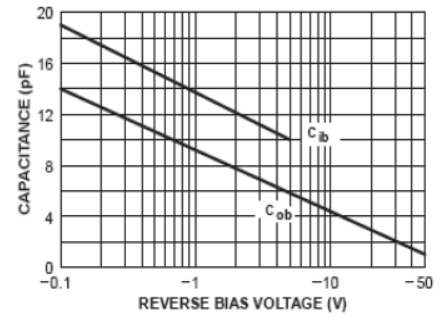
Base Emitter ON Voltage vs Collector Current



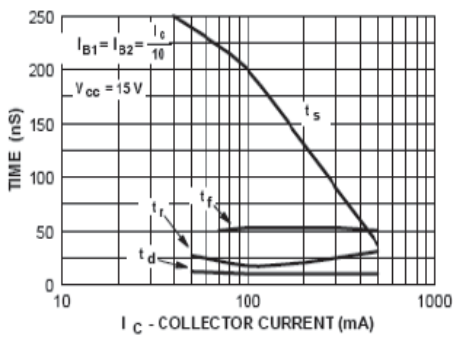
Collector-Cutoff Current vs Ambient Temperature



Input and Output Capacitance vs Reverse Bias Voltage



Switching Times vs Collector Current



Turn On and Turn Off Times vs Collector Current

