MMBT4403 TRANSISTOR (PNP)

1.BASE

2.COLLECTOR

3.EMITTER

SOT-23-3

FEATURES

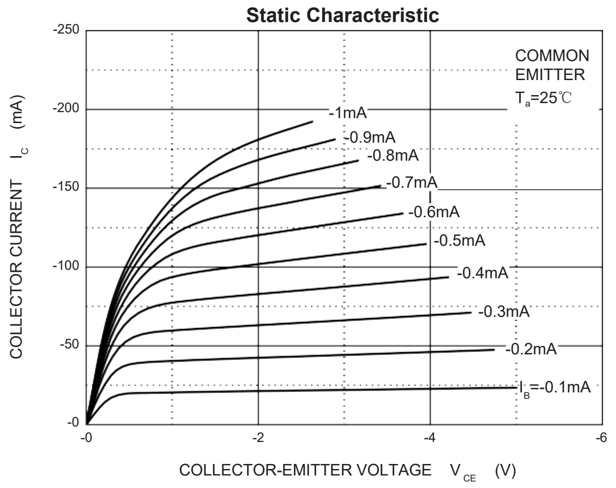
Switching transistor

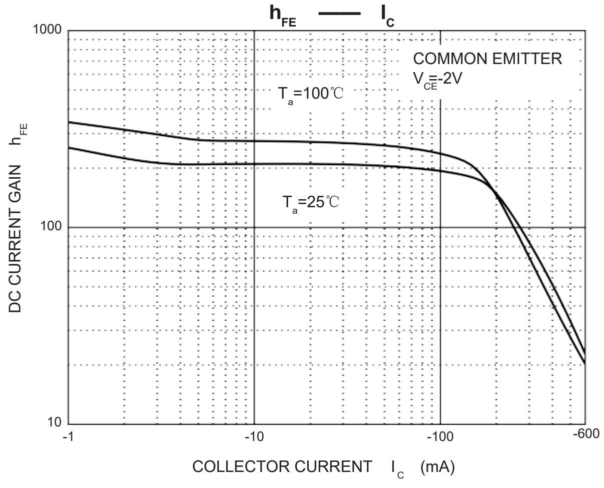
MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

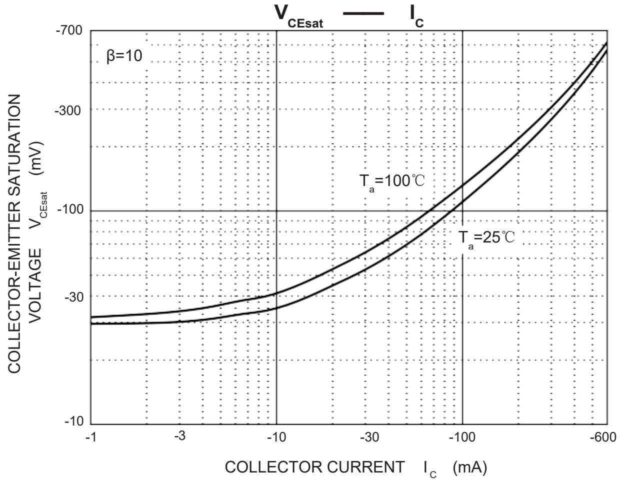
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-600	mA
P_C	Collector Power Dissipation	300	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	417	℃/W
T_j,T_{stg}	Operation Junction and Storage Temperature Range	-55～+150	℃

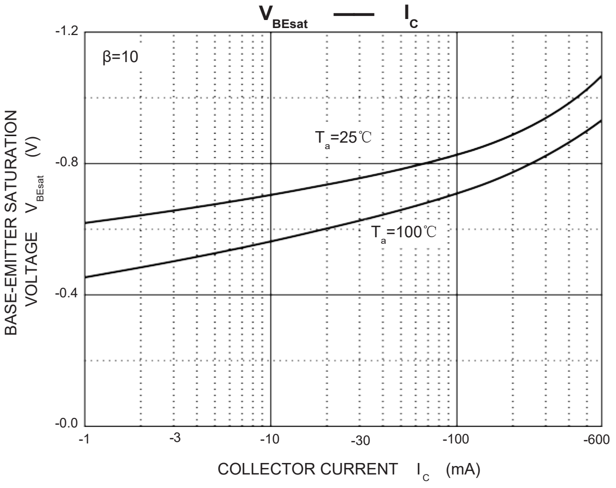
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

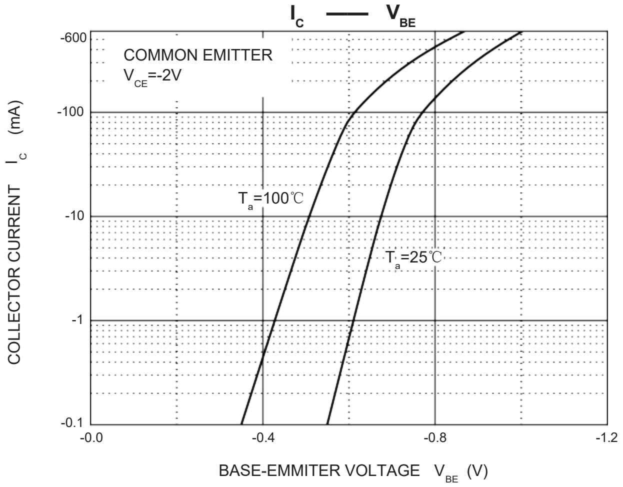
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-100 µA,I_E=0	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-1mA,I_B=0	-40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-100 µA ,I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-35V,I_E=0			-0.1	µA
Collector cut-off current	I_{CEX}	V_{CE}=-35V, V_{BE}=0.4V			-0.1	µA
Emitter cut-off current	I_{EBO}	V_{EB}=-4V,I_C=0			-0.1	µA
DC current gain	h_{FE1}	V_{CE}=-1V, I_C=-0.1mA	30			
	h_{FE2}	V_{CE}=-1V, I_C=-1mA	60			
	h_{FE3}	V_{CE}=-1V, I_C=-10mA	100			
	h_{FE4}	V_{CE}=-2V, I_C=-150mA	100		300	
	h_{FE5}	V_{CE}=-2V, I_C=-500mA	20			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-150mA,I_B=-15mA			-0.4	V
		I_C=-500mA,I_B=-50mA			-0.75	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=-150mA,I_B=-15mA			-0.95	V
		I_C=-500mA,I_B=-50mA			-1.3	V
Transition frequency	f_T	V_{CE}=-10V, I_C=-20mA,f =100MHz	200			MHz
Delay time	t_d	V_{CC}=-30V, $V_{BE(off)}$=-0.5V			15	ns
Rise time	t_r	I_C=-150mA , I_{B1}=-15mA			20	ns
Storage time	t_s	V_{CC}=-30V, I_C=-150mA			225	ns
Fall time	t_f	I_{B1}=I_{B2}=-15mA			60	ns

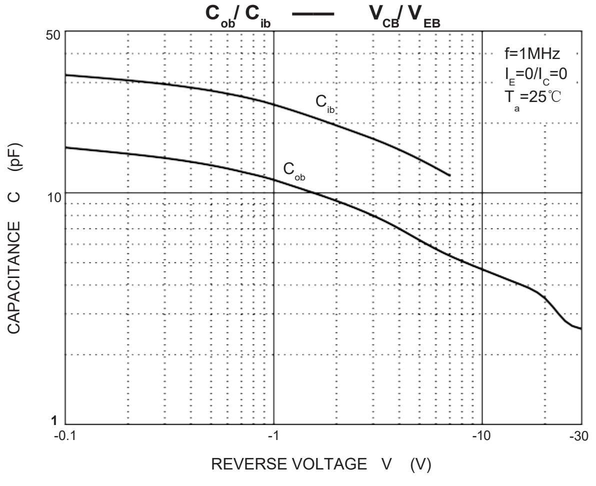

Static Characteristic

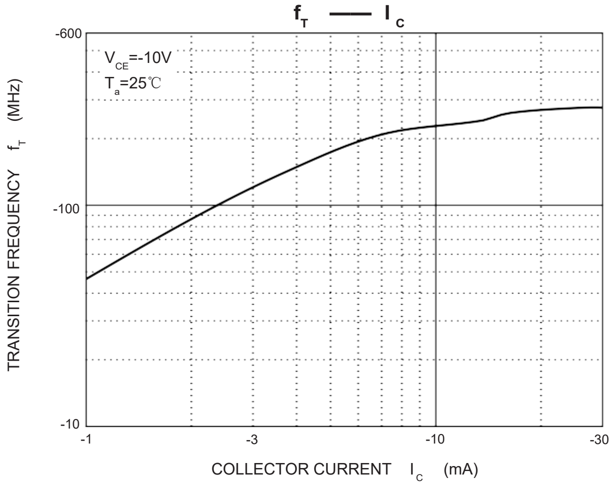

h_FE —— I_C

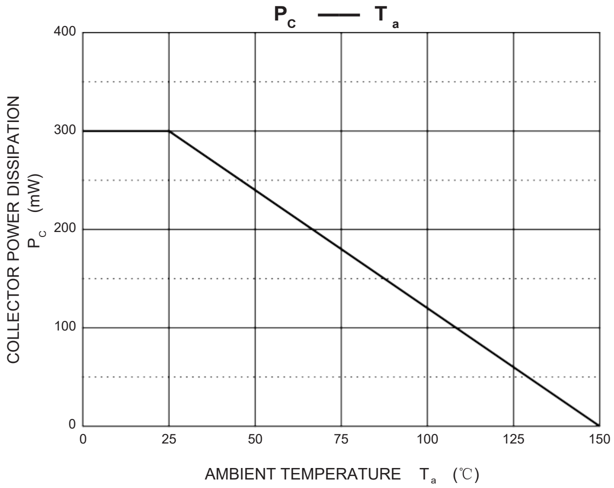

V_CEsat —— I_C


V_BEsat —— I_C


I_C —— V_BE


C_ob / C_ib —— V_CB / V_EB


f_T —— I_C


P_C —— T_a