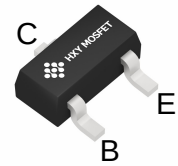




Features

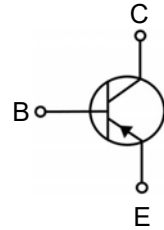
Low equivalent on-resistance



SOT-23

Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
HFMMT591TA	SOT-23	591	3000



Maximum Ratings (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-80	V
V_{CEO}	Collector-Emitter Voltage	-60	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-1	A
I_{CM}	Peak Pulse Current	-2	A
P_C	Collector Power Dissipation	250	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	500	°C/W
T_J, T_{stg}	Operation Junction And Storage Temperature Range	-55~+150	°C

Electrical Characteristics (Ta=25°C unless otherwise noted)

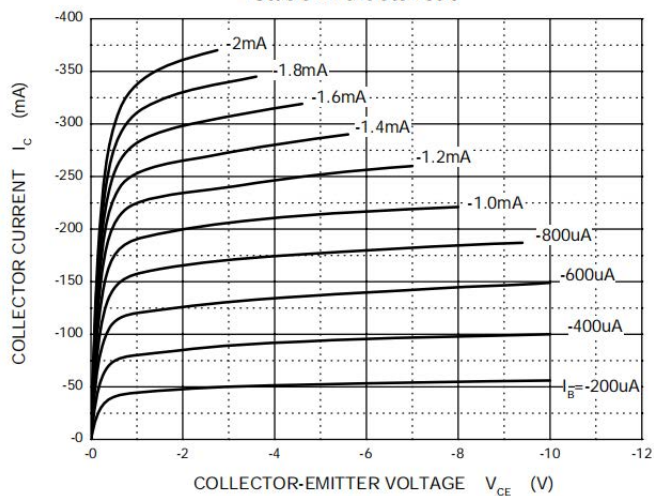
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu A, I_E=0$	-80			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^1$	$I_C=-10mA, I_B=0$	-60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu A, I_C=0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB}=-60V, I_E=0$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-4V, I_C=0$			-0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=-5V, I_C=-1mA$	100			
	$h_{FE(2)}^1$	$V_{CE}=-5V, I_C=-500mA$	100		300	
	$h_{FE(3)}^1$	$V_{CE}=-5V, I_C=-1A$	80			
	$h_{FE(4)}^1$	$V_{CE}=-5V, I_C=-2A$	15			
Collector-emitter saturation voltage	$V_{CE(sat)1}^1$	$I_C=-500mA, I_B=-50mA$			-0.3	V
	$V_{CE(sat)2}^1$	$I_C=-1A, I_B=-100mA$			-0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}^1$	$I_C=-1A, I_B=-100mA$			-1.2	V
Base-emitter voltage	V_{BE}^1	$V_{CE}=-5V, I_C=-1A$			-1	V
Transition frequency	f_T	$V_{CE}=-10V, I_C=-50mA, f=100MHz$	150			MHz
Collector output capacitance	C_{ob}	$V_{CB}=-10V, f=1MHz$			10	pF

¹Measured under pulsed conditions, Pulse width=300 μs , Duty cycle $\leq 2\%$.

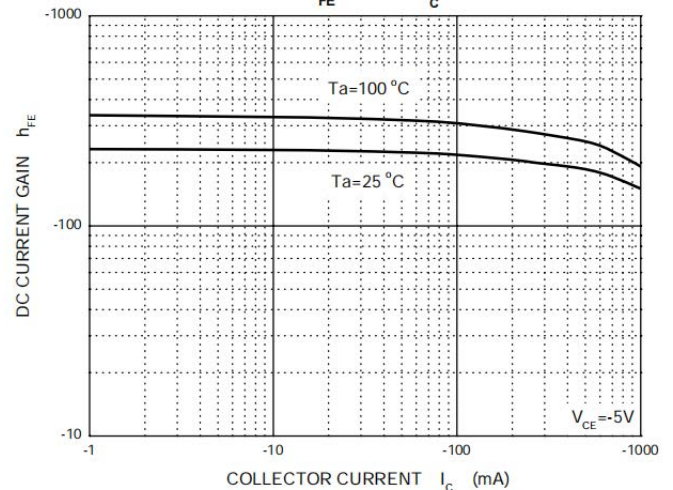


Typical Characteristics

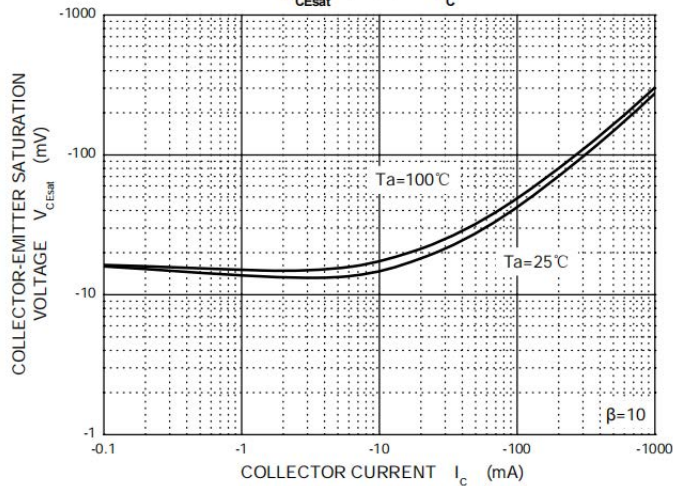
Static Characteristic



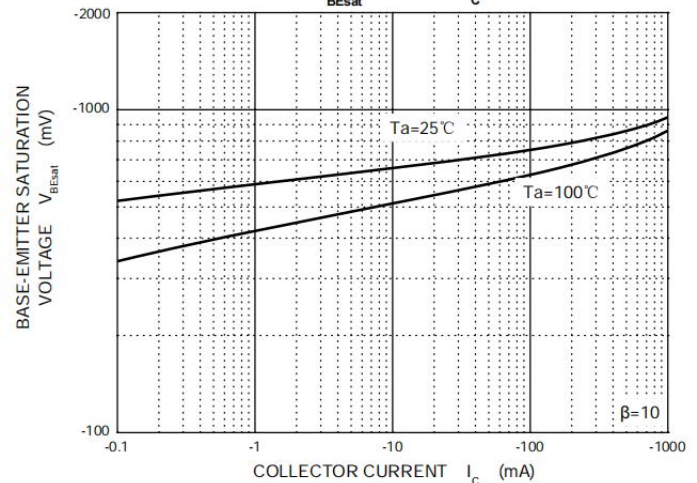
h_{FE} — I_c



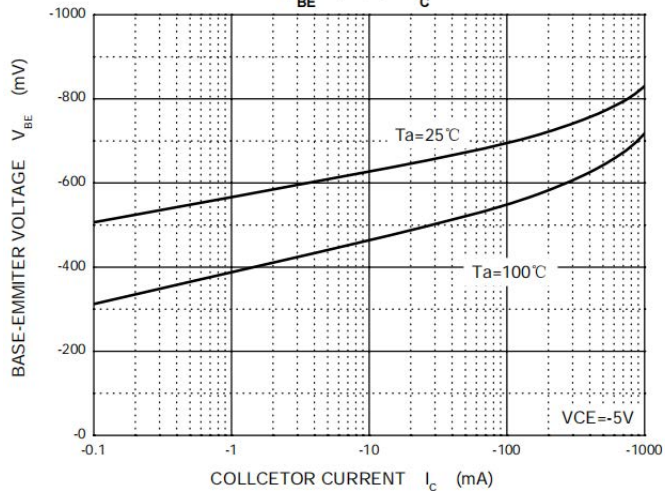
V_{CEsat} — I_c



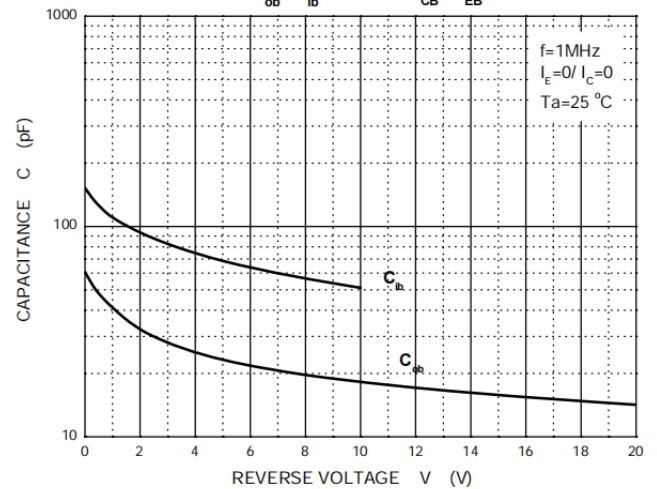
V_{BEsat} — I_c

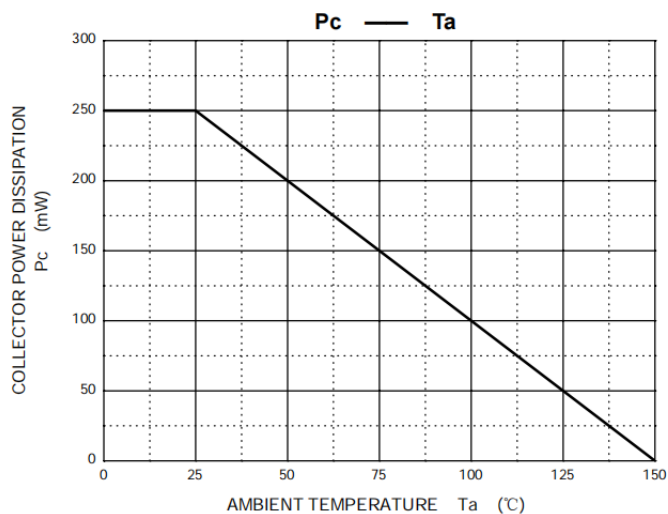
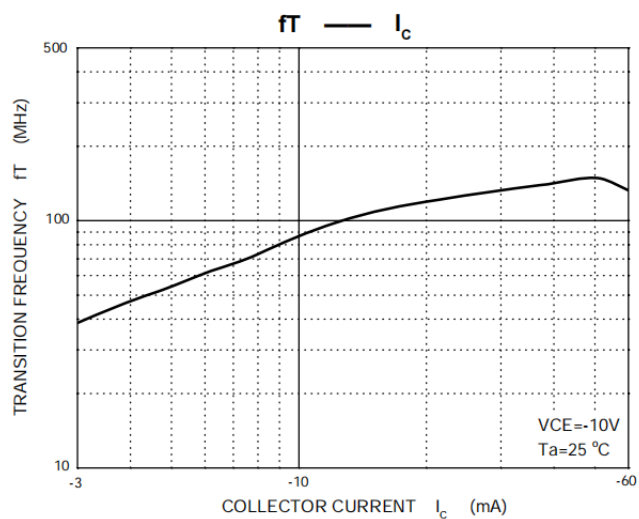


V_{BE} — I_c

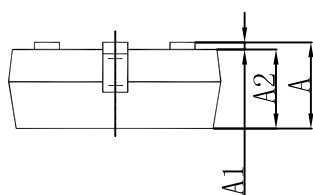
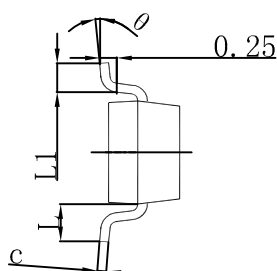
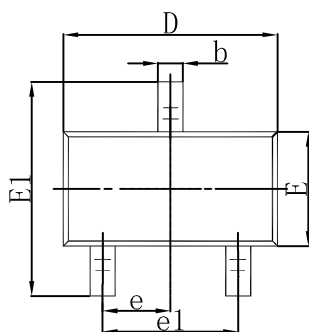


C_{ob}/C_{ib} — V_{CB}/V_{EB}





SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
theta	0°	8°	0°	8°



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