BORN SEMICONDUCTOR

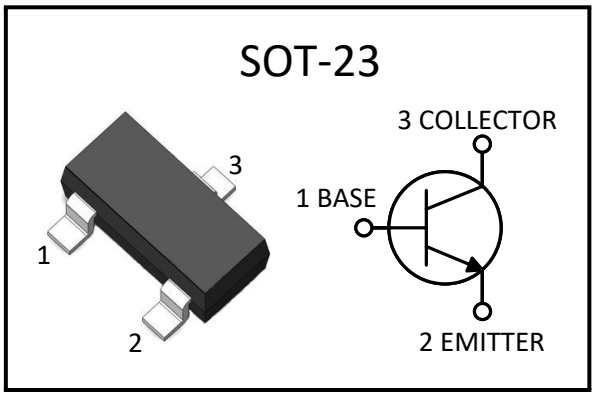
FMMT619

NPN Plastic-Encapsulate Transistor

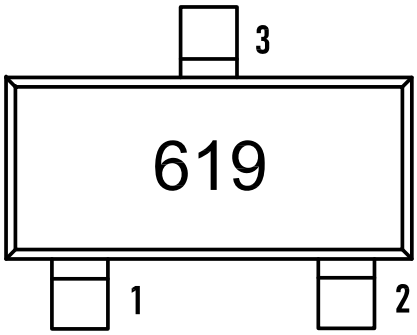
Features

- V_{CE}=50V
- I_C=2A
- f_T=100MHZ @V_{CE}=10V, I_C=50mA,f=100MHz
- Low Saturation voltage.

Package



Marking



Ordering information

Order code	Package	Marking	Base qty	Delivery mode
FMMT619	SOT-23	619	3K	Tape and reel

Absolute Maximum Ratings @T_A=25°C unless otherwise noted

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	2	A
P_C	Collector Power Dissipation	350	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	357	mW
T_J,T_{stg}	Operation Junction And Storage Temperature Range	-55 to + 150	°C

Revision: 2022-Jan-1-A

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Electrical Characteristics (T_A=+25°C, unless otherwise specified)

Symbol	Parameter	Test condition	Min.	Typ.	Max.	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C= 100μA, I_E=0	50	–	–	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=10mA,I_B=0	50	–	–	
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=100μA,I_C=0	5	–	–	
I_{CBO}	Collector cut-off current	V_{CB}=40V,I_E=0	–	–	0.1	uA
I_{EBO}	Emitter cut-off current	V_{EB}=4V,I_C=0	–	–	0.1	
$V_{CE(sat)}$	Collector-emitter saturation voltage	I_C=0.1A,I_B=10mA	–	–	20	mV
		I_C=1A,I_B=10mA	–	–	200	
		I_C=2A,I_B=100mA	–	–	220	
$V_{BE(sat)}$	Base-emitter saturation voltage	I_C=2A,I_B=50mA	–	–	1.0	V
$V_{BE(on)}$	Base-Emitter Turn On Voltage	I_C=2A,V_{CE}=2.0V	–	–	1.0	V
h_{FE}	DC current gain	V_{CE}=2V,I_C=10mA	200	–	–	
		V_{CE}=2V,I_C=200mA	300	–	–	
		V_{CE}=2V,I_C=1A	200	–	–	
		V_{CE}=2V,I_C=2A	100	–	–	
		V_{CE}=2V,I_C=6A	20	40	–	
f_T	Transition frequency	V_{CE}=10V,I_C=50mA,f=100MHZ	100	–	–	MHZ
C_{obo}	Output capacitance	V_{CB}=10V,f=1MHZ	–	–	20	pF
$t_{(on)}$	Turn-on time	V_{CC}=10V,I_C=1.0A, I_{B1}=I_{B2}=10mA	–	170	–	ns
$t_{(off)}$	Turn-off time		–	750	–	ns

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Typical Performance Characteristics(T_J = 25 °C, unless otherwise noted)

Figure 1 : Static Characteristic

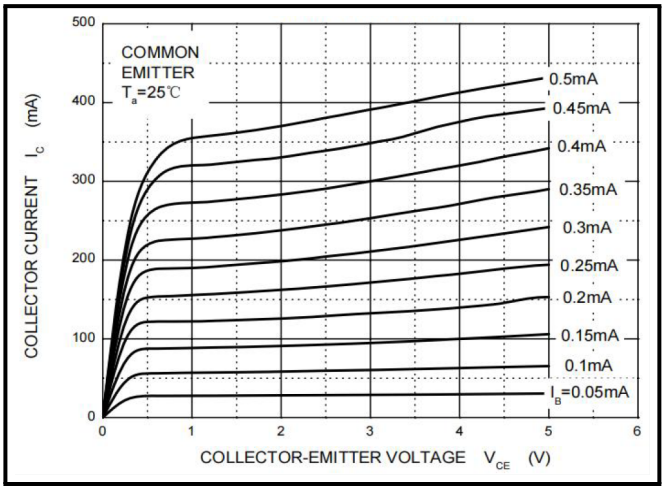


Figure 2 :h_{FE}—I_C

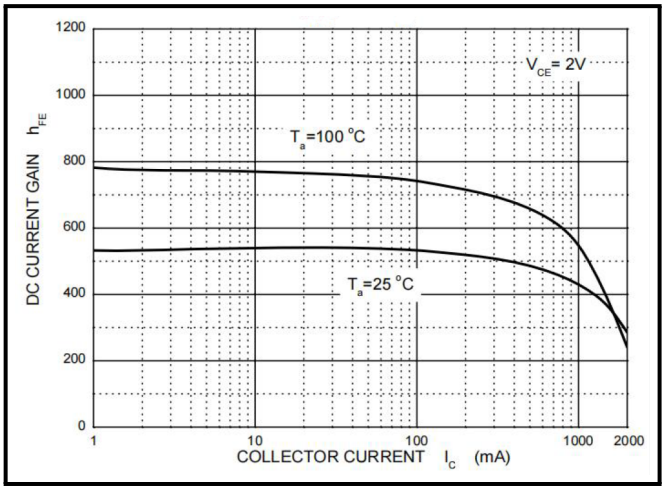


Figure 3 :$V_{BE(sat)}$—I_C

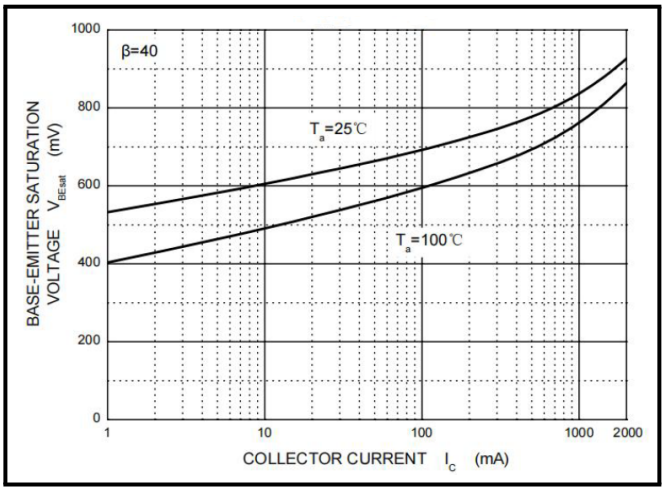
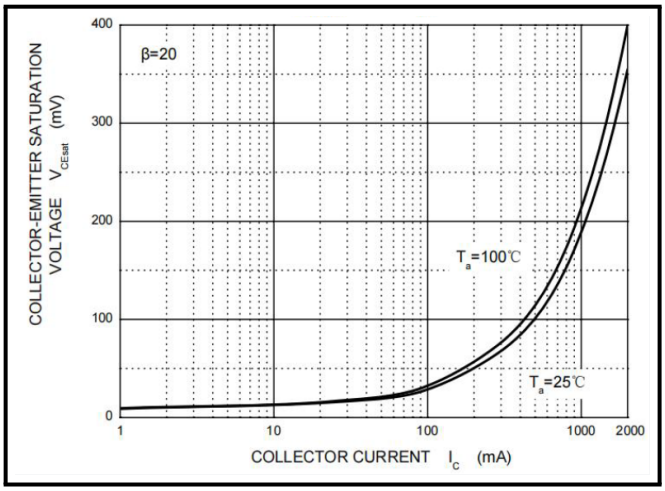


Figure 4 : $V_{CE(sat)}$— I_C



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Typical Performance Characteristics(T_J = 25 °C, unless otherwise noted)

Figure 5 :fT——I_C

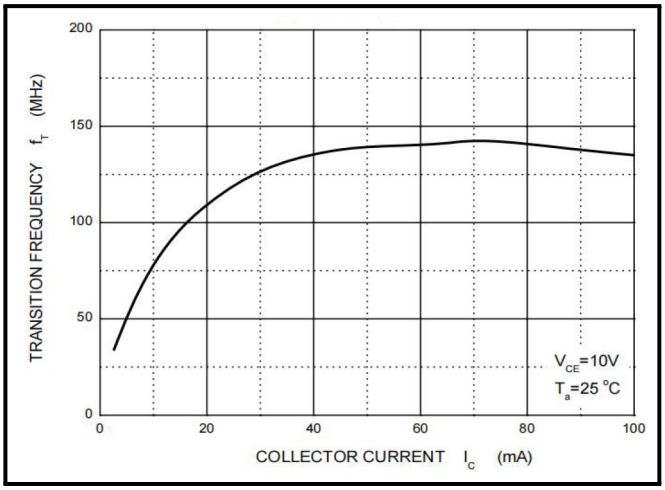


Figure 6 : C_{ob}/C_{ib}—— V_{CB}/V_{EB}

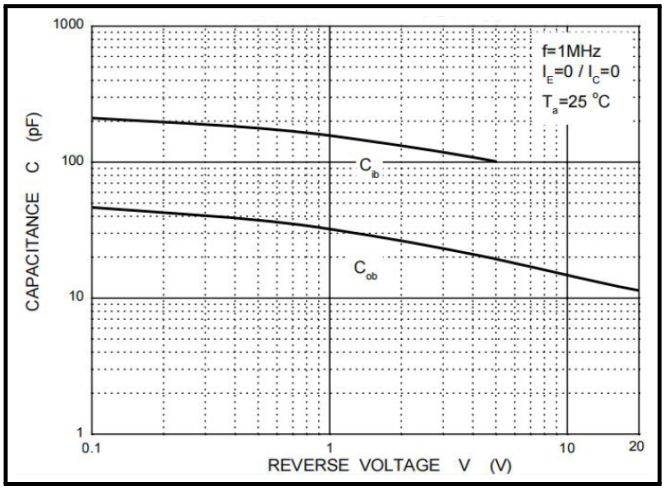


Figure 7 : I_C —— V_{BE}

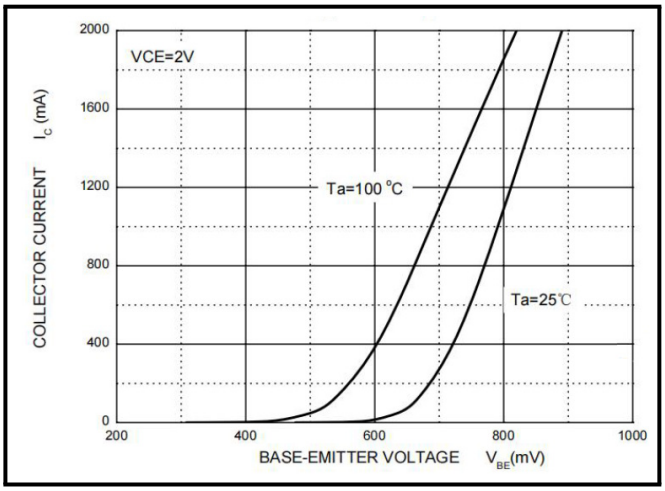
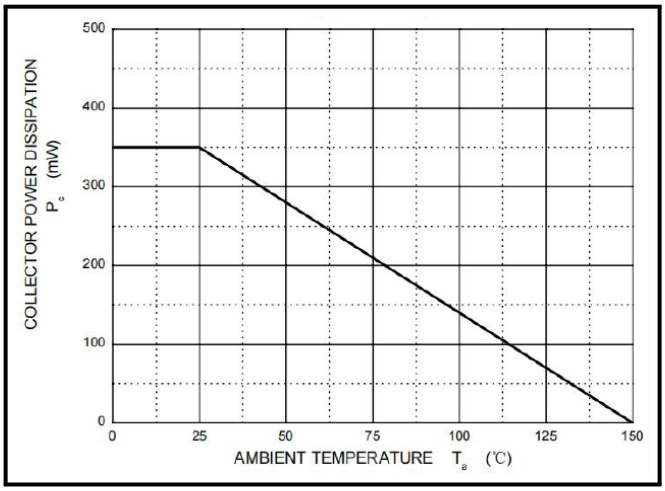


Figure 8 : P_C——T_a



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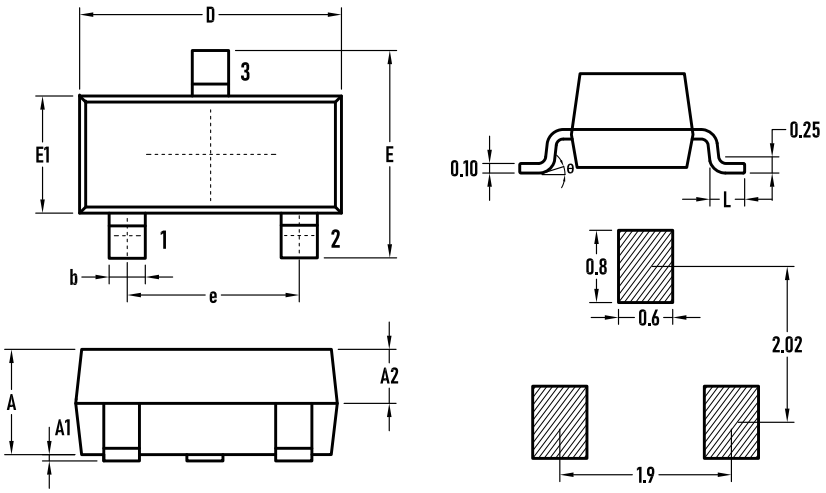
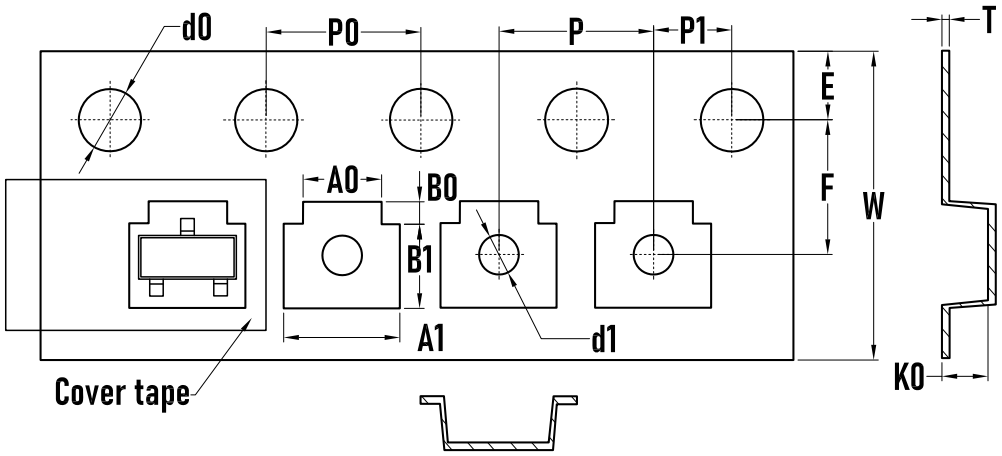
Outline Drawing - SOT-23



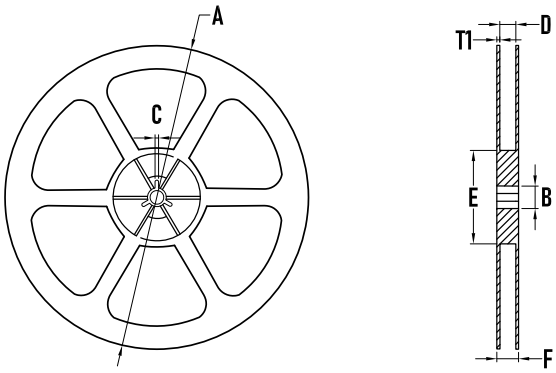
SYMBOL	MILLIMETER		
	MIN.	Typ	MAX
A	0.95	1.00	–
A1	0.02	0.06	0.10
A2	–	0.60	–
D	2.85	2.90	2.95
b	0.37	0.40	0.43
E	2.35	2.40	2.45
E1	1.25	1.30	1.35
e	1.85	1.90	1.95
L	0.35	0.40	0.48
θ	0	–	6°

Packaging Tape - SOT-23



SYMBOL	MILLIMETER
A0	2.10±0.10
A1	3.10±0.10
B0	0.65±0.10
B1	2.75±0.10
d0	1.55±0.10
d1	1.00±0.05
E	1.75±0.10
F	3.50±0.10
K0	1.10±0.10
P	4.00±0.10
P0	4.00±0.10
P1	2.00±0.10
W	8.00±0.30
T	0.20 ±0.05

Packaging Reel



SYMBOL	MILLIMETER
A	177.8±0.2
B	3.1
C	13.50
D	9.6±0.3
E	75±0.2
F	12.3±0.3
T1	1.0±0.2
Quantity	3000PCS

Revision: 2022-Jan-1-A

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