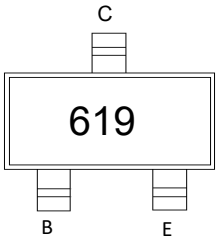
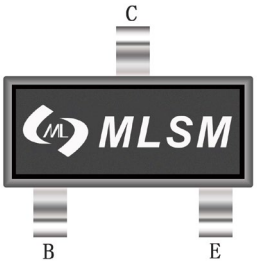
Features

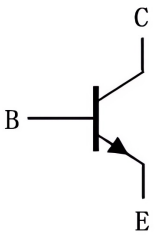
- Low Saturation Voltage



Marking and pin assignment



SOT-23 top view



Schematic diagram

Pb-Free RoHS Halogen-Free

Maximum Ratings (Ta=25℃ 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-Continuous	2	A
P_c	Power Dissipation	0.35	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	357	℃/W
P_{CM}	Maximum Power Dissipation (note 1)	0.625	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient (note 1)	200	℃/W
T_J , T_{STG}	Operating and Storage Temperature Range	-55～+150	℃

Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
FMMT619	SOT-23	619	3,000	45,000	180,000	7"reel

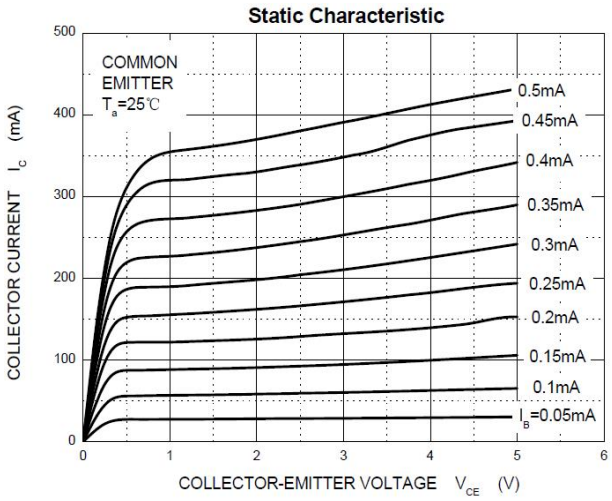
Electrical Characteristics (Ta=25℃ unless otherwise specified)

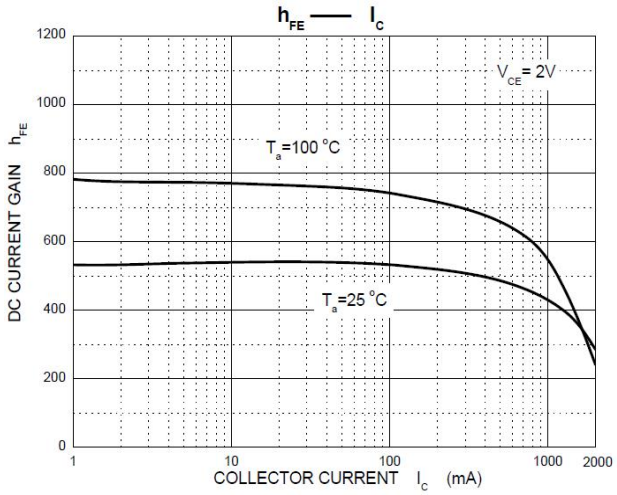
Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=100μA,I_E=0	50	--	--	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage(note 2)	I_C=10mA,I_B=0	50	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=100μA,I_C=0	5	--	--	V
I_{CBO}	Collector cut-off current	V_{CB}=40V,I_E=0	--	--	100	nA
I_{EBO}	Emitter cut-off current	V_{EB}= 4V,I_C=0	--	--	100	nA
h_{FE1}	DC current gain (note 2)	V_{CE}=2V,I_C=10mA	200	--	--	
h_{FE2}		V_{CE}=2V,I_C=0.2A	300	--	--	
h_{FE3}		V_{CE}=2V,I_C=1A	200	--	--	
h_{FE4}		V_{CE}=2V,I_C=2A	100	--	--	
h_{FE5}		V_{CE}=2V,I_C=6A	--	40	--	
$V_{CE(sat)1}$	Collector-emitter saturation voltage (note 2)	I_C=0.1A I_B=10mA	--	--	20	mV
$V_{CE(sat)2}$		I_C= 1A I_B= 10 mA	--	--	200	mV
$V_{CE(sat)3}$		I_C= 2A I_B= 100 mA	--	--	220	mV
$V_{BE(sat)}$	Base-emitter saturation voltage (note 2)	I_C= 2A I_B=50mA	--	--	1	V
$V_{BE(on)}$	Base-emitter on voltage (note 2)	I_C= 2A V_{CE}=2V	--	--	1	V
$t_{(on)}$	Turn-on time	V_{CC}=10V, I_C=1A, I_{B1}=-I_{B2}=10r	--	170	--	ns
$t_{(off)}$	Turn-off time		--	750	--	ns
f_T	Transition frequency	V_{CE}= 10 V, I_c=50mA,f =100M	100	--	--	MHz
C_{ob}	Collector output capacitance	V_{CB}=10V,f=1MHz	--	--	20	pF

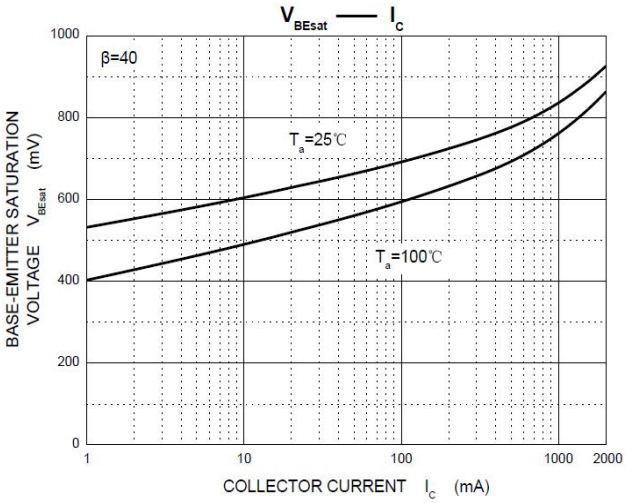
Notes :1.Maximum power dissipation is calculated assuming that the device is mounted on a ceramic substrate measuring 15x15x(
2. Pulse test: Pulse width≤300μs,duty cycle≤2.0%.

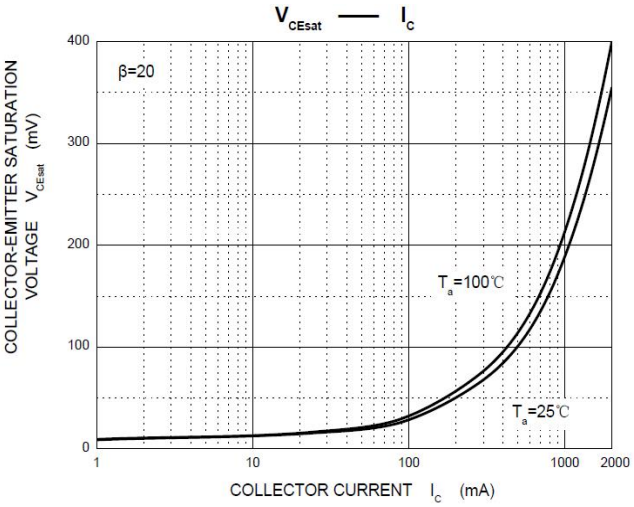
*Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

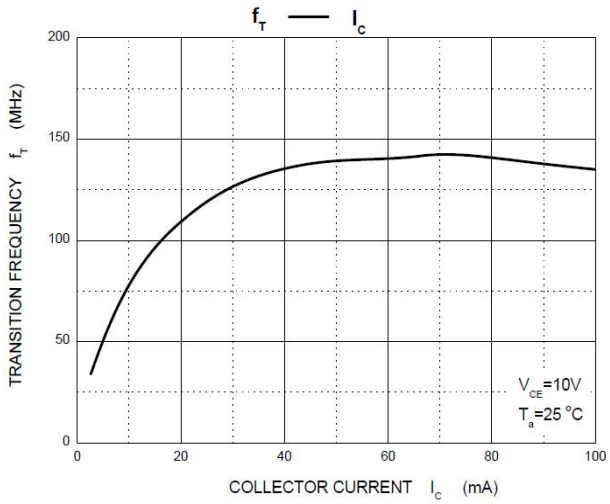
Typical Operating Characteristics

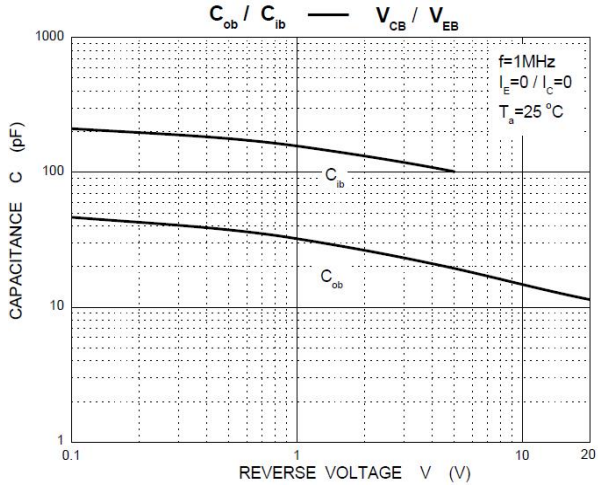


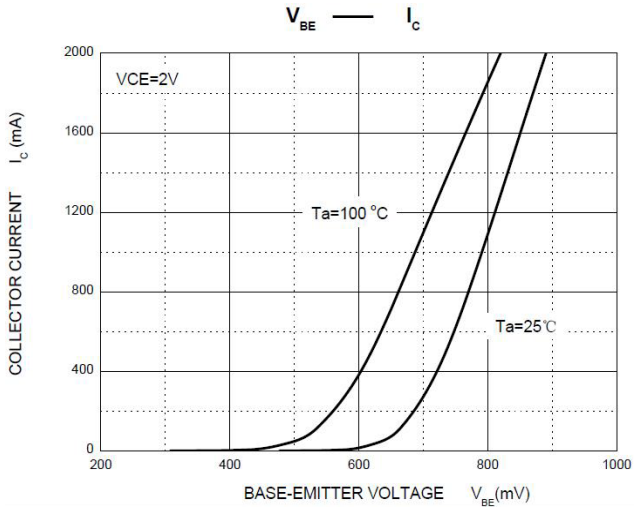


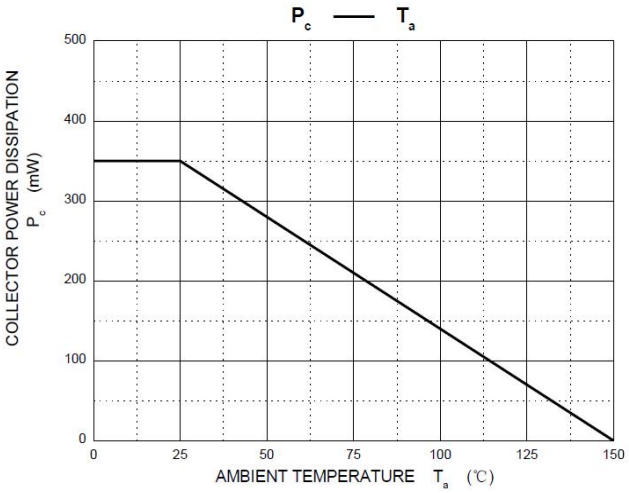




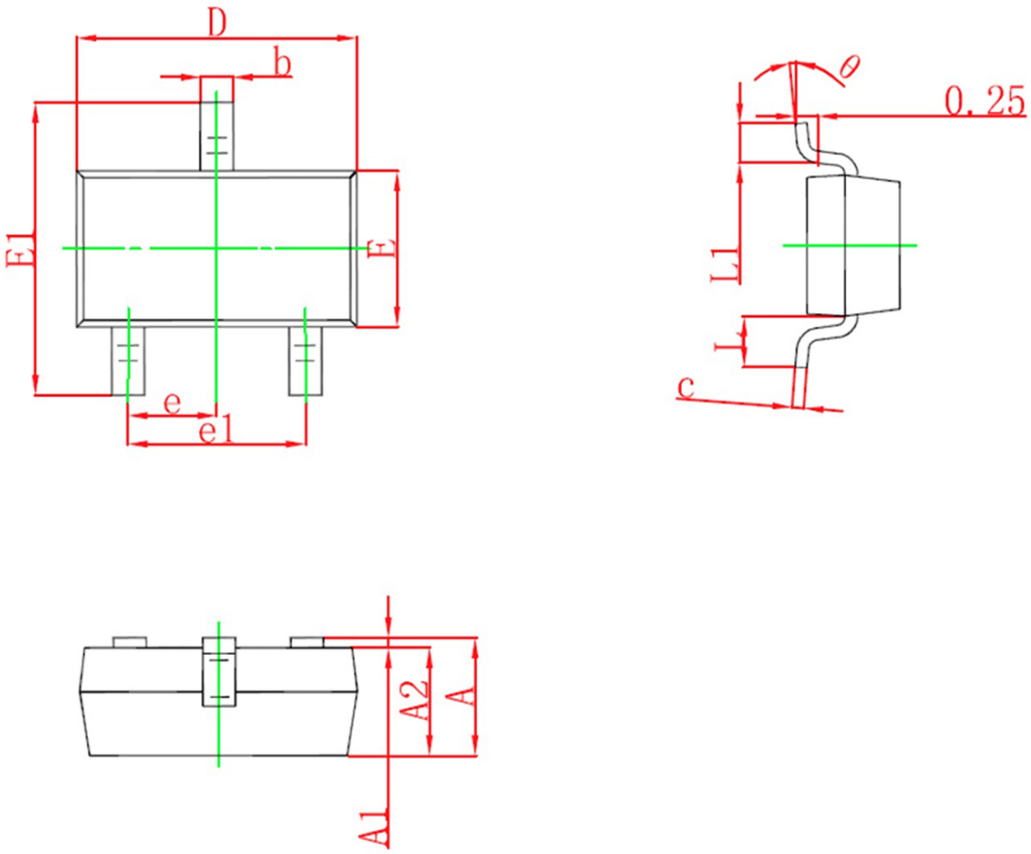








SOT-23 Package information



Symbol	Dimensions in Millimeters(mm)		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
E1	2.250	2.550	0.088	0.100
E	1.200	1.400	0.047	0.055
e	0.950TYP		0.037TYP	
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
θ	0°	8°	0°	8°