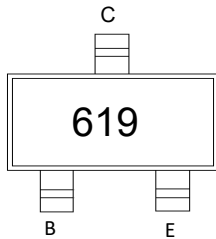
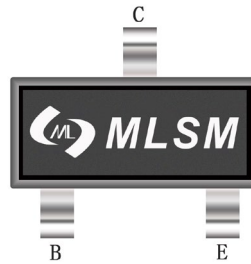


Features

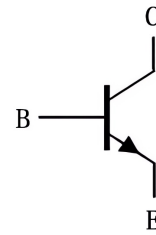
- Low Saturation Voltage



Marking and pin assignment



SOT-23 top view



Schematic diagram



Pb-Free



RoHS



Halogen-Free

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

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

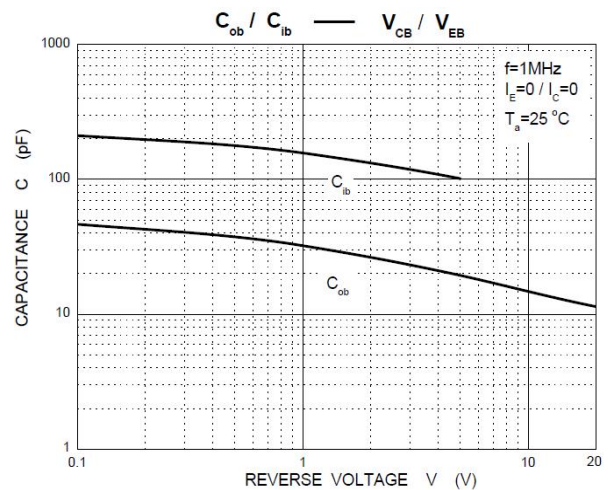
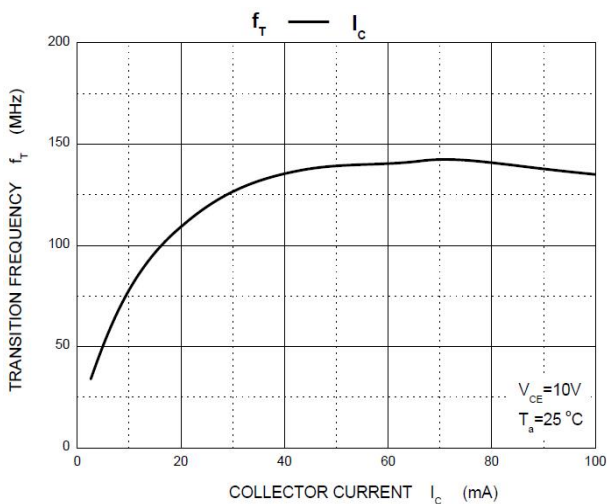
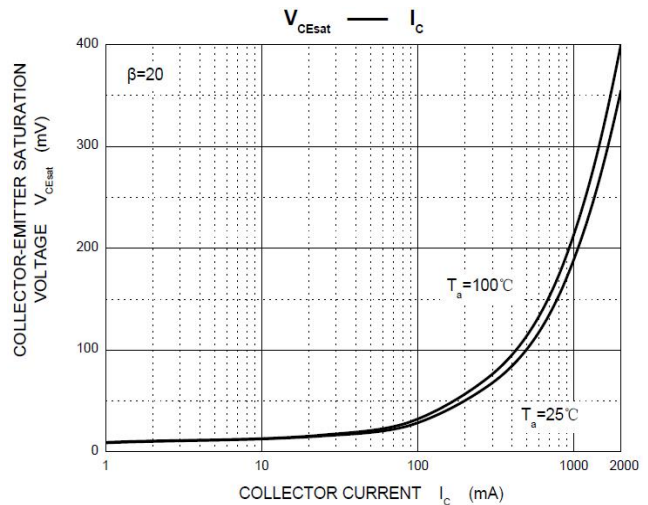
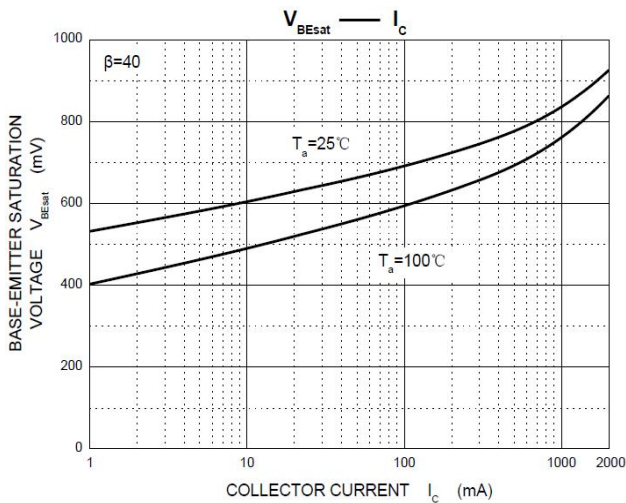
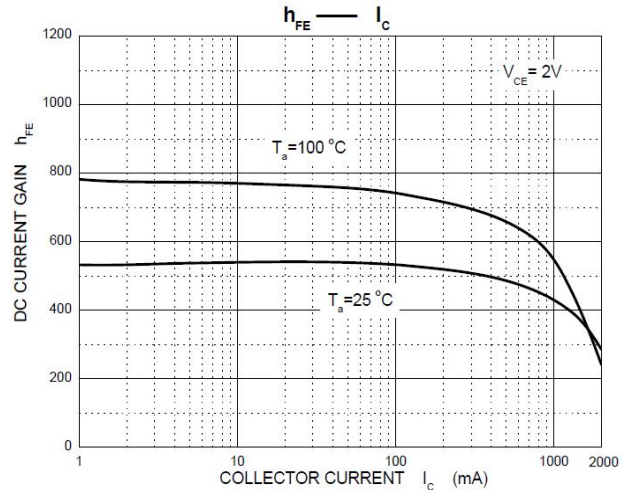
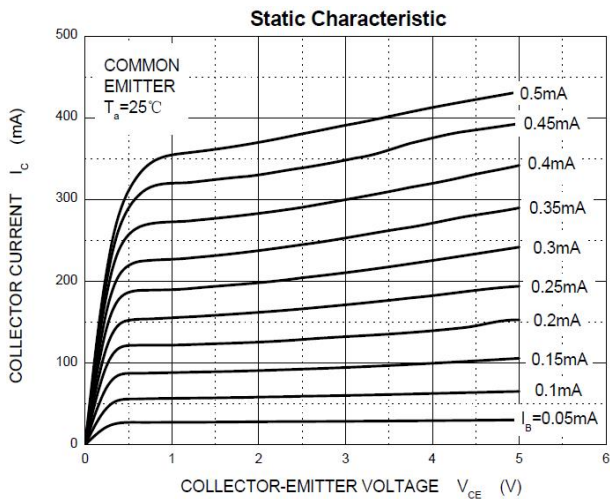
Electrical Characteristics (Ta=25°C unless otherwise specified)

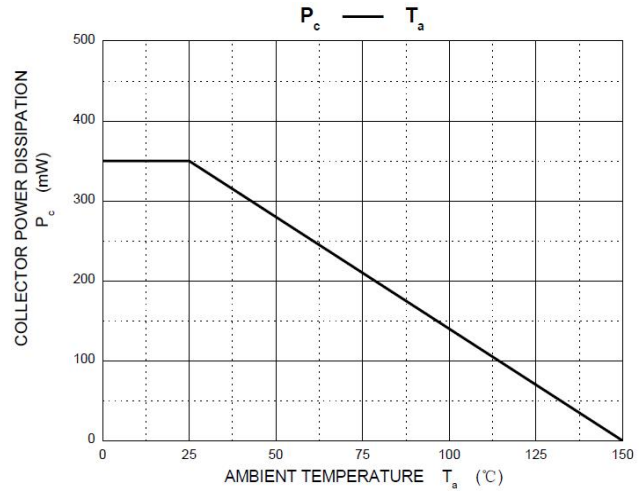
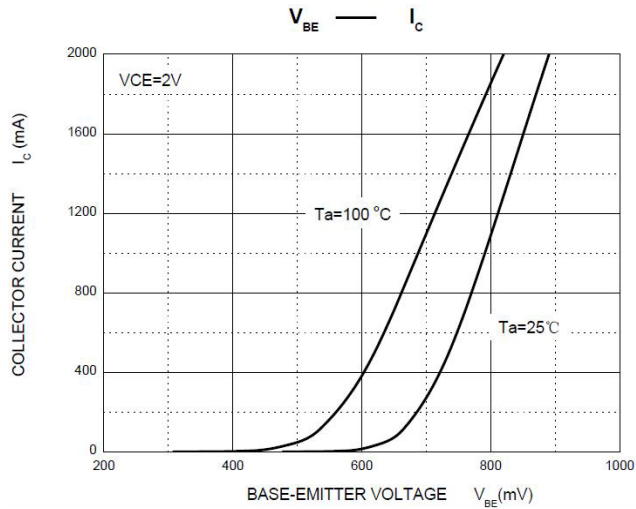
Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=100\mu A, I_E=0$	50	--	--	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage(note 2)	$I_C=10mA, I_B=0$	50	--	--	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=100\mu A, I_C=0$	5	--	--	V
I_{CBO}	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
$V_{CE(sat)2}$		$I_C=1A, I_B=10mA$	--	--	200	mV
$V_{CE(sat)3}$		$I_C=2A, I_B=100mA$	--	--	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	$V_{CC}=10V, I_C=1A, I_{B1}=-I_{B2}=10mA$	--	170	--	ns
$t_{(off)}$	Turn-off time		--	750	--	ns
f_T	Transition frequency	$V_{CE}=10V, I_C=50mA, f=100MHz$	100	--	--	MHz
C_{ob}	Collector output capacitance	$V_{CB}=10V, f=1MHz$	--	--	20	pF

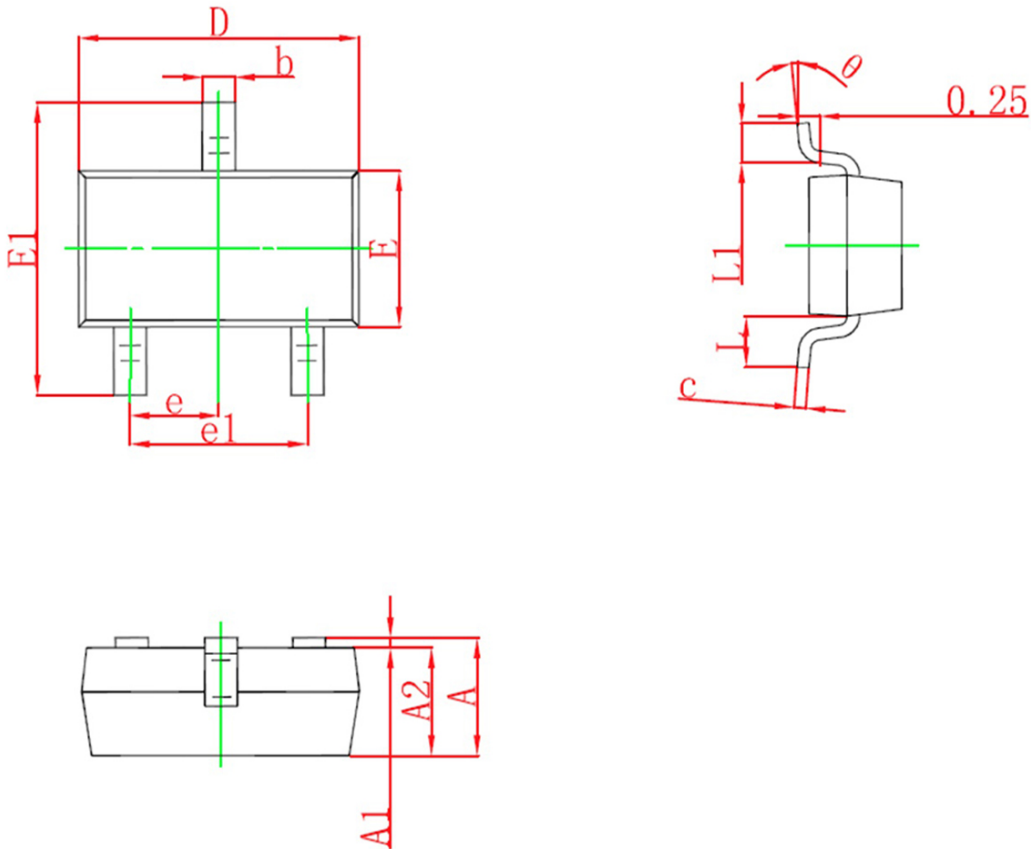
Notes :1.Maximum power dissipation is calculated assuming that the device is mounted on a ceramic substrate measuring 15x15x0.8mm.
2. Pulse test: Pulse width \leq 300 μ s,duty cycle \leq 2.0%.

*Pulse test: pulse width \leq 300 μ s, duty cycle \leq 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°