

Plastic-Encapsulate Transistors

TRANSISTOR(NPN)

FEATURES

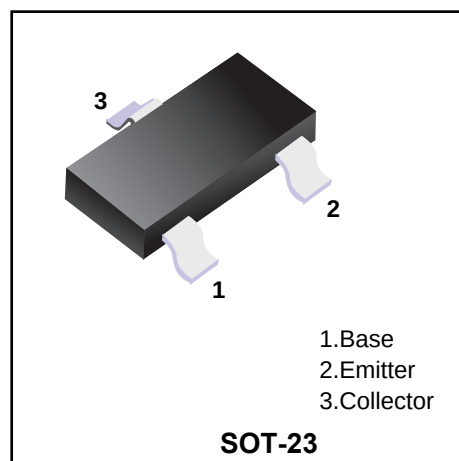
◆Low saturation voltage

MECHANICAL DATA

◆Case :SOT-23

◆Epoxy UL: 94V-0

◆Mounting Position: Any



Marking Code

FMMT619

619

Maximum Ratings & Thermal Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified.)

Parameters	Symbol	Value	Unit
Collector-Base Voltage	VCBO	50	V
Collector-Emitter Voltage	VCEO	50	V
Emitter -Base Voltage	VEBO	5	V
Collector Current-Continuous	IC	2	A
Collector Power Dissipation	PC	350	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55-+150	°C
Thermal resistance From junction to ambient	R_{θJA}	357	°C/W

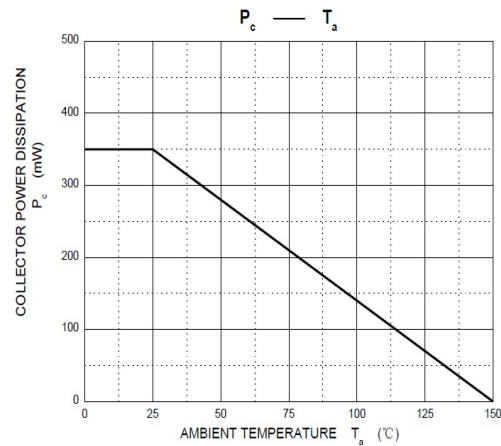
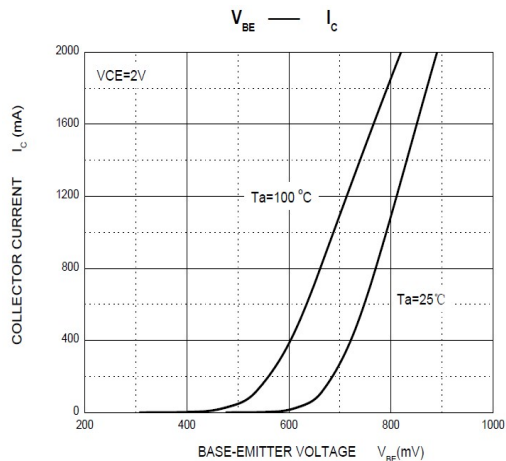
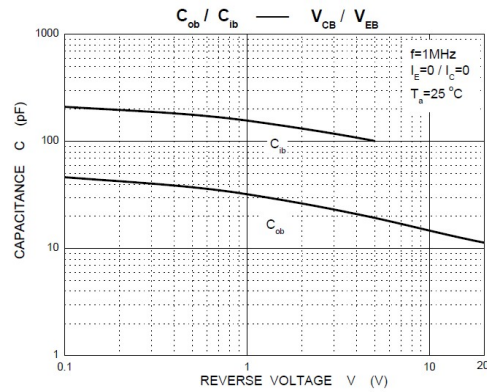
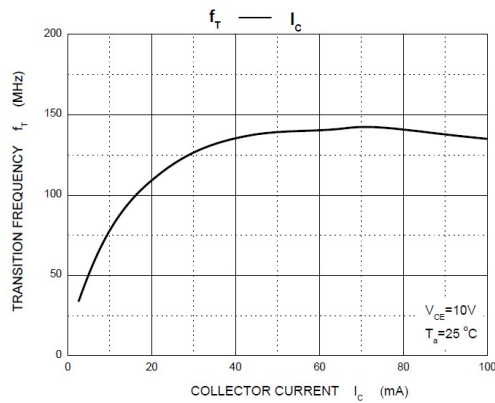
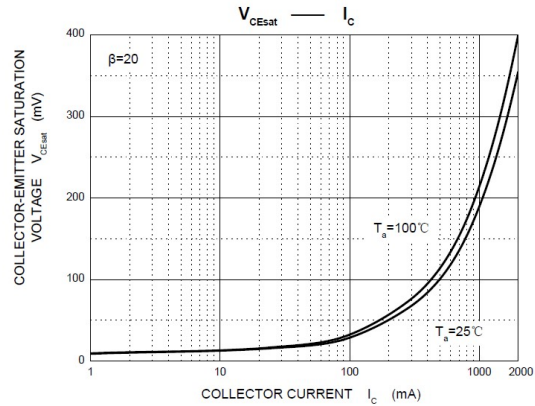
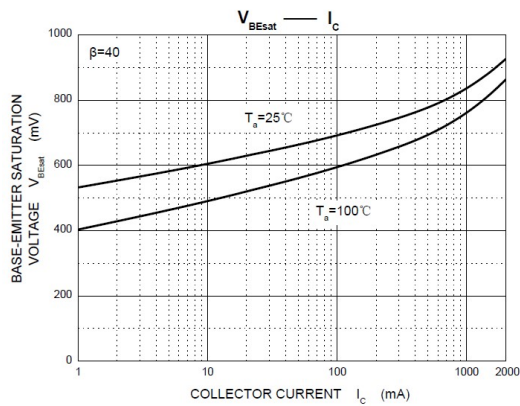
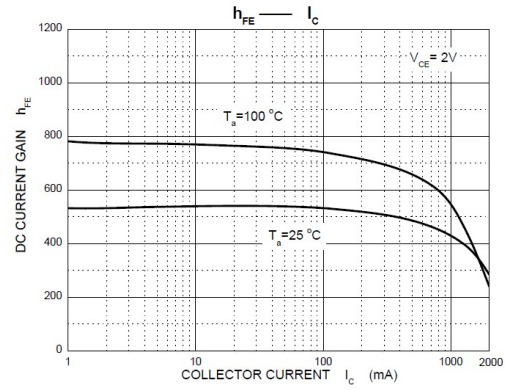
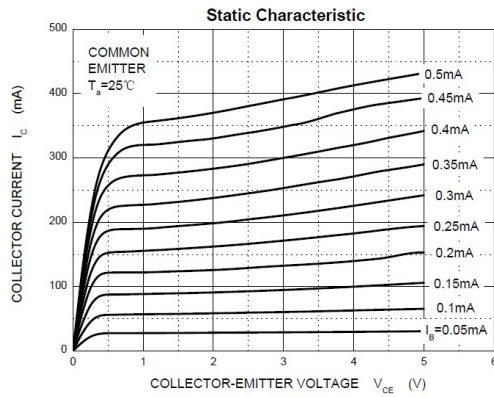
Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified).

Parameter	Test Condition	Symbols	Min	Typ	Max	Unit
Collector-base breakdown voltage	$I_C=100\mu A, I_E=0$	$V(BR)CBO$	50			V
Collector-emitter breakdown voltage*	$I_C=10mA, I_B=0$	$V(BR)CEO$	50			V
Emitter-base breakdown voltage	$I_E=100\mu A, I_C=0$	$V(BR)EBO$	5			V
Collector cut-off current	$V_{CB}=40V, I_E=0$	I_{CBO}			100	nA
Emitter cut-off current	$V_{EB}=4V, I_C=0$	I_{EBO}			100	nA
DC current gain*	$V_{CE}=2V, I_C=10mA$	$hFE(1)$	200			
	$V_{CE}=2V, I_C=200mA$	$hFE(2)$	300			
	$V_{CE}=2V, I_C=1A$	$hFE(3)$	200			
	$V_{CE}=2V, I_C=2A$	$hFE(4)$	100			
	$V_{CE}=2V, I_C=6A$	$hFE(5)$		40		
Collector-emitter saturation voltage*	$I_C=100mA, I_B=10mA$	$V_{CE(sat)}$			20	mV
	$I_C=1A, I_B=10mA$				200	mV
	$I_C=2A, I_B=100mA$				220	mV
Base -emitter saturation voltage*	$I_C=2A, I_B=50mA$	$V_{BE(sat)}$			1.00	V
Base -emitter on voltage*	$V_{CE}=2V, I_C=2A$	$V_{BE(on)}$			1.00	V
Transition frequency	$V_{CE}=10V, I_C=50mA, f=100MHz$	f_T	100			MHz
Collector output capacitance	$V_{CB}=10V, f=1MHz$	C_{ob}			20	pF
Turn-on time	$V_{CE}=10V, I_C=1A, I_{B1}=-I_{B2}=10mA$	$t(on)$		170		ns
Turn-off time		$t(off)$		750		ns

* Measured under pulsed conditions, Pulse width=300us, Duty cycle $\leq$ 2%

Typical Characteristics



Ordering information

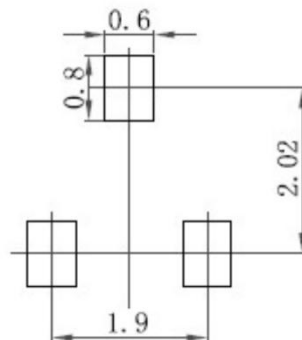
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel, 7" reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

Package Dimensions

SOT-23

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.15	35	45
A1	0.1		3.9	
bp	0.38	0.48	15	19
C	0.09	0.15	3.54	5.9
D	2.8	3.0	110	118
E	1.2	1.4	47	55
e	1.9		75	
e1	0.95		37	
HE	2.1	2.55	83	100
Lp	0.15	0.45	5.9	18
Q	0.45	0.55	18	22
v	0.2		7.9	
W	0.1		4	

The recommended mounting pad size



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