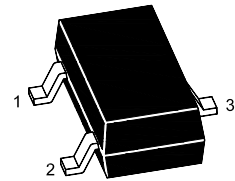




Features

- High Continuous Collector Current
- Extremely Low Saturation Voltage

SOT-23



1.Base 2.Emitter 3.Collector

Marking : 617

Absolute Maximum Ratings

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	15	V
Collector Emitter Voltage	V_{CEO}	15	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	3	A
Power Dissipation	P_D	625	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to 150	°C



Electrical Characteristics

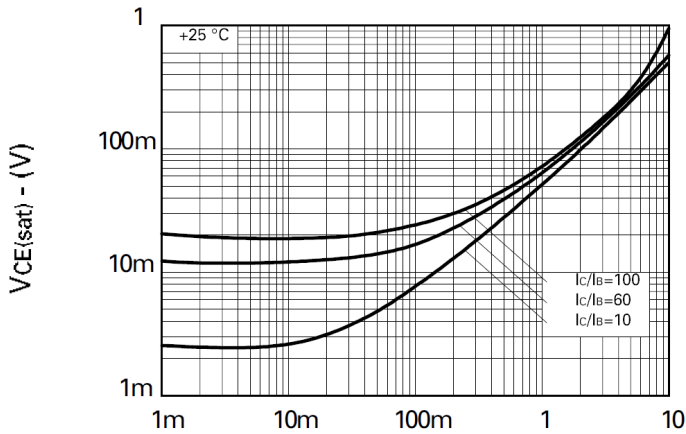
Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain ^{Note1} at $V_{CE} = 2\text{ V}$, $I_C = 10\text{ mA}$ at $V_{CE} = 2\text{ V}$, $I_C = 200\text{ mA}$ at $V_{CE} = 2\text{ V}$, $I_C = 3\text{ A}$	H_{FE}	200 300 200	- - -	- - -	-
Collector Base Cutoff Current at $V_{CB} = 10\text{ V}$	I_{CBO}	-	-	100	nA
Emitter Base Cutoff Current at $V_{EB} = 5\text{ V}$	I_{EBO}	-	-	100	nA
Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	$V_{(BR)CBO}$	15	-	-	V
Collector Emitter Breakdown Voltage at $I_C = 10\text{ mA}$	$V_{(BR)CEO}$	15	-	-	V
Emitter Base Breakdown Voltage at $I_E = 100\text{ }\mu\text{A}$	$V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage ^{Note1} at $I_C = 0.1\text{ A}$, $I_B = 10\text{ mA}$ at $I_C = 1\text{ A}$, $I_B = 10\text{ mA}$ at $I_C = 3\text{ A}$, $I_B = 50\text{ mA}$	$V_{CE(sat)}$	-	-	14 350 500	mV
Base Emitter Saturation Voltage ^{Note1} at $I_C = 3\text{ A}$, $I_B = 50\text{ mA}$	$V_{BE(sat)}$	-	-	1.2	V
Base Emitter Voltage ^{Note1} at $V_{CE} = 2\text{ V}$, $I_C = 3\text{ A}$	$V_{BE(on)}$	-	-	1.0	V
Transition Frequency at $V_{CE} = 10\text{ V}$, $I_C = 50\text{ mA}$, $f=100\text{ MHz}$	F_T	150	-	-	MHz
Collector Output Capacitance at $V_{CB} = 10\text{ V}$, $f= 1\text{ MHz}$	C_{ob}	-	-	40	pF

Note: 1. Measured under pulsed conditions, Pulse width $\leq 300\text{ }\mu\text{s}$, Duty cycle $\leq 2\%$.

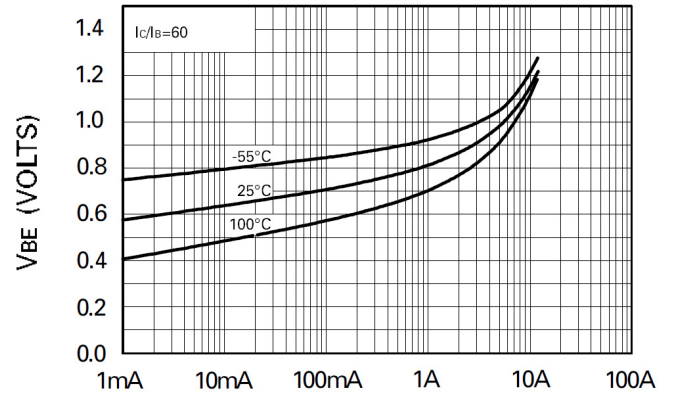


Typical Characteristic Curves



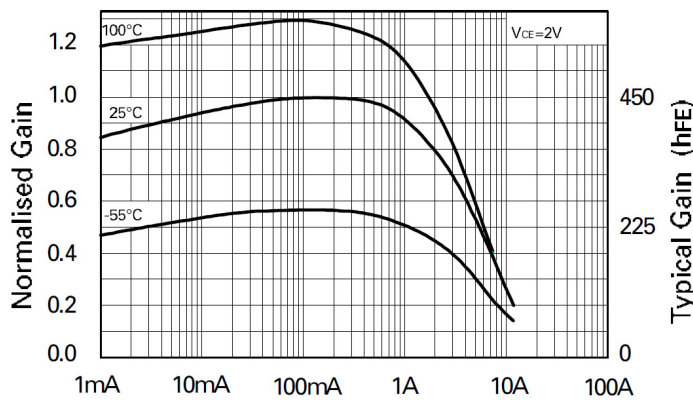
I_C - Collector Current (A)

$V_{CE(SAT)}$ v I_C



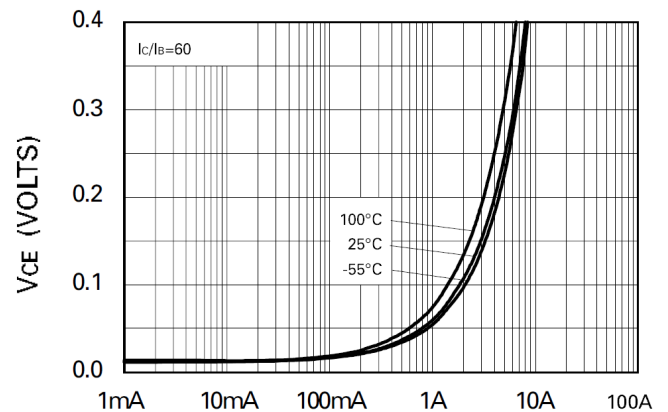
Collector Current

$V_{BE(SAT)}$ vs I_C



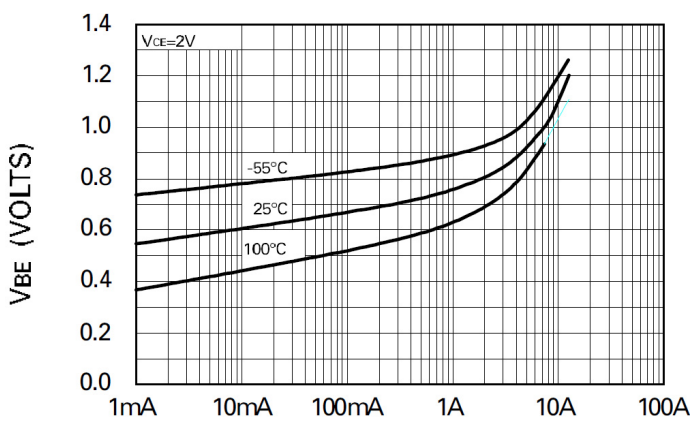
Collector Current

hFE vs I_C



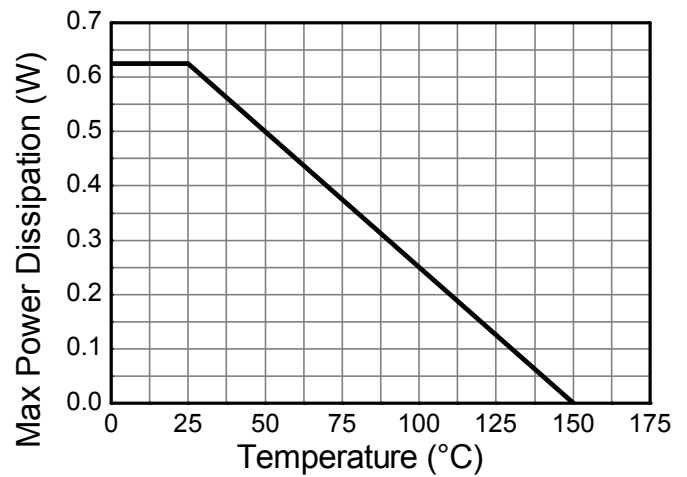
Collector Current

$V_{CE(SAT)}$ vs I_C



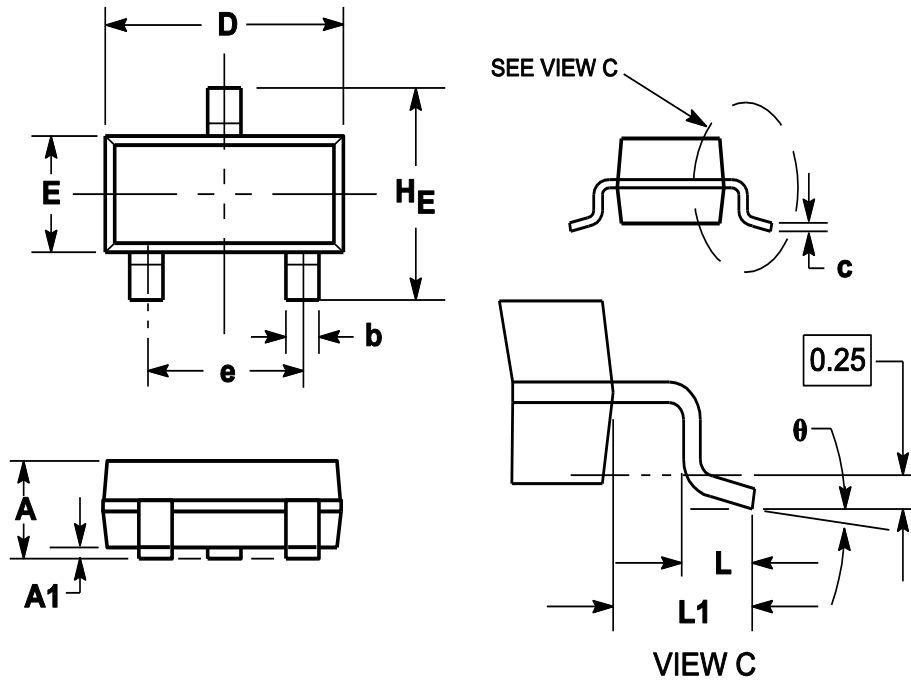
Collector Current

$V_{BE(ON)}$ vs I_C





Package Outline SOT-23



Symbol	Dimensions in millimeter		
	Min.	Typ.	Max.
A	0.900	1.025	1.150
A1	0.000	0.050	0.100
b	0.300	0.400	0.500
c	0.080	0.115	0.150
D	2.800	2.900	3.000
E	1.200	1.300	1.400
HE	2.250	2.400	2.550
e	1.800	1.900	2.000
L1	0.550REF		
L	0.300		0.500
θ	0°		8°

Ordering Information

Device	Package	Reel Dimension (inch)	Shipping
FMMT617	SOT-23	7	3,000