

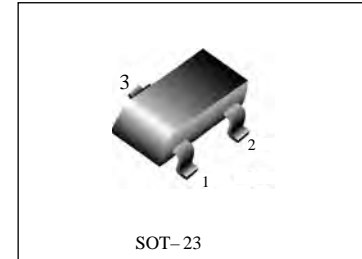
## General Purpose Transistors

### NPN Silicon

- We declare that the material of product compliance with RoHS requirements.

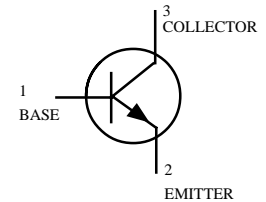
#### ORDERING INFORMATION

Device	Marking	Shipping
FTC2412K-Q	BQ	3000 Tape & Reel
FTC2412K-R	BR	3000 Tape & Reel
FTC2412K-S	G1F	3000 Tape & Reel



#### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	$V_{CEO}$	50	V
Collector-Base Voltage	$V_{CBO}$	60	V
Emitter-Base Voltage	$V_{EBO}$	7.0	V
Collector Current — Continuous	$I_C$	150	mAdc
Collector power dissipation	$P_C$	0.2	W
Junction temperature	$T_j$	150	C
Storage temperature	$T_{stg}$	-55 ~ +150	C

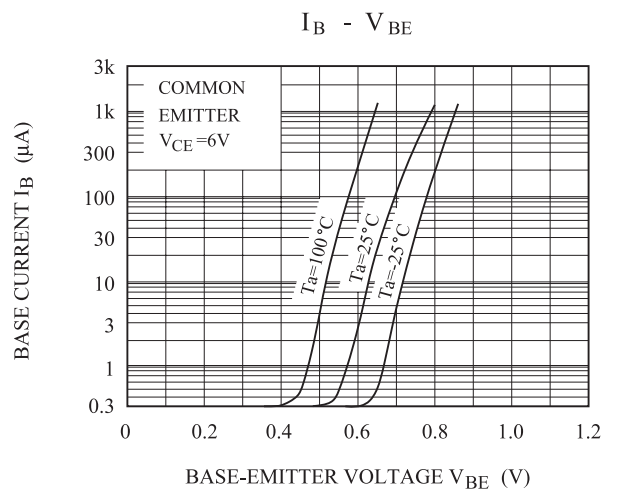
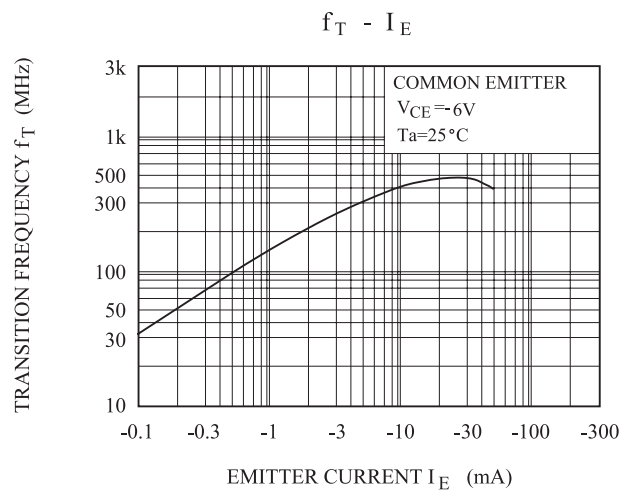
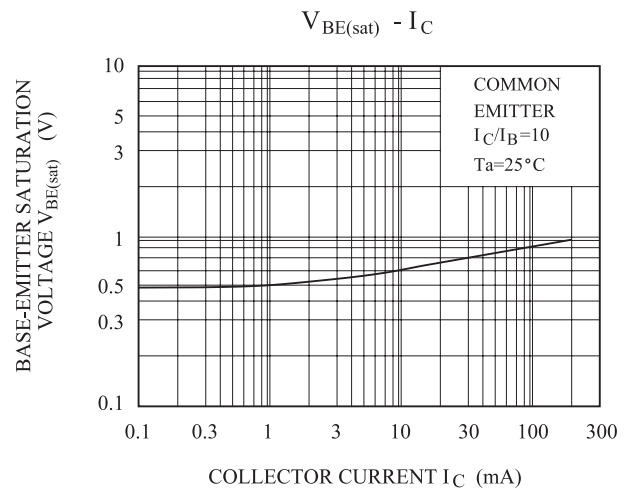
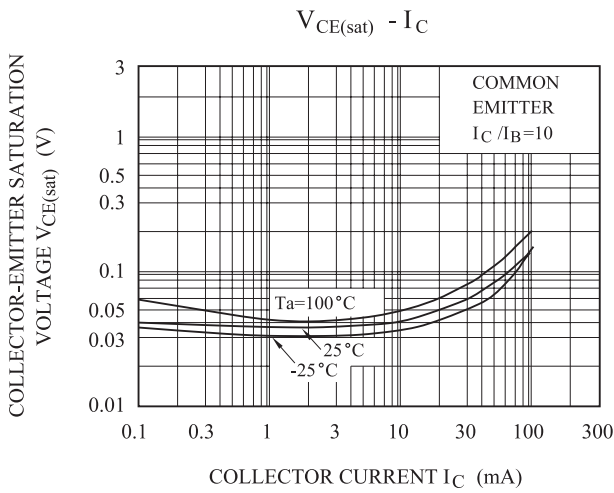
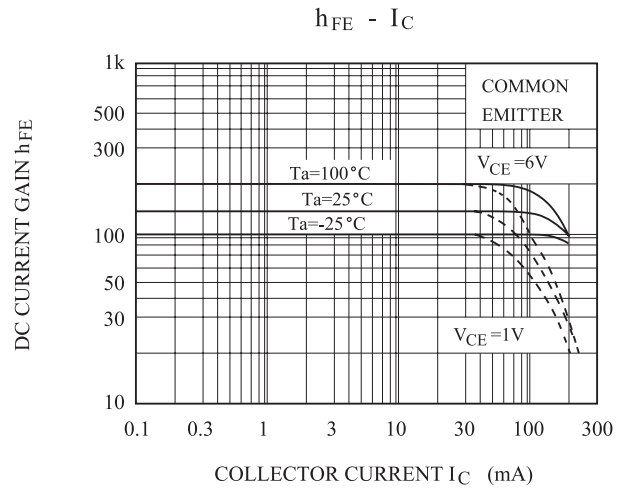
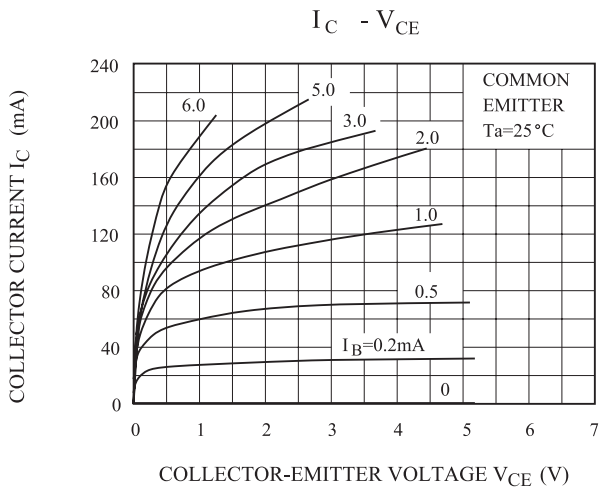


#### ELECTRICAL CHARACTERISTICS ( $T_A = 25\text{ C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage ( $I_C = 1\text{ mA}$ )	$V_{(BR)CEO}$	50	-	-	V
Emitter-Base Breakdown Voltage ( $I_E = 50\text{ }\mu\text{A}$ )	$V_{(BR)EBO}$	7	-	-	V
Collector-Base Breakdown Voltage ( $I_C = 50\text{ }\mu\text{A}$ )	$V_{(BR)CBO}$	60	-	-	V
Collector Cutoff Current ( $V_{CB} = 60\text{ V}$ )	$I_{CBO}$	-	-	0.1	$\mu\text{A}$
Emitter cutoff current ( $V_{EB} = 7\text{ V}$ )	$I_{EBO}$	-	-	0.1	$\mu\text{A}$
Collector-emitter saturation voltage ( $I_C / I_B = 50\text{ mA} / 5\text{ mA}$ )	$V_{CE(sat)}$	-	-	0.4	V
DC current transfer ratio $h_{FE}$ ( $V_{CE} = 6\text{ V}, I_C = 1\text{ mA}$ )	$h_{FE}$	120	-	560	-
Transition frequency ( $V_{CE} = 12\text{ V}, I_E = -2\text{ mA}, f = 30\text{ MHz}$ )	$f_T$	-	180	-	MHz
Output capacitance ( $V_{CB} = 12\text{ V}, I_E = 0\text{ A}, f = 1\text{ MHz}$ )	$C_{ob}$	-	2.0	3.5	pF

$h_{FE}$  values are classified as follows:

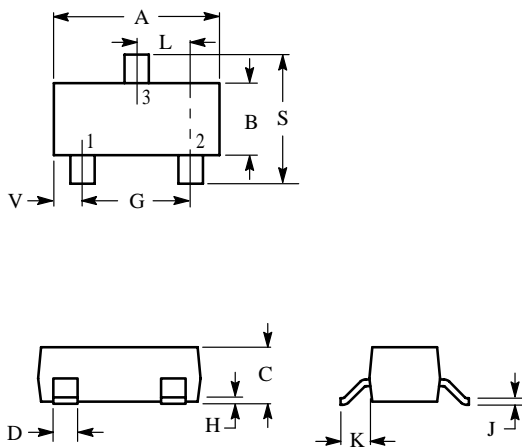
*	Q	R	S
$h_{FE}$	120~270	180~390	270~560



## SOT -23

### NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M,1982
2. CONTROLLING DIMENSION: INCH.



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

