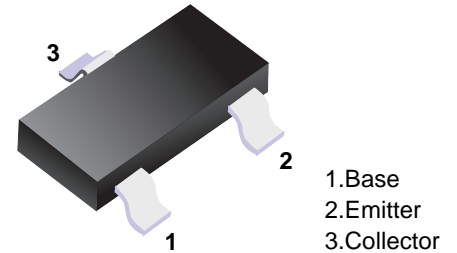


NPN Transistors

■ Features

- Low C_{ob} . $C_{ob}=2.0pF$ (Typ.)



■ Simplified outline(SOT-23)

■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	60	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	7	V
Collector current	I_c	0.15	A
Collector power dissipation	P_c	0.2	W
Junction temperature	T_j	150	$^\circ C$
Storage temperature	T_{stg}	-55 to +150	$^\circ C$

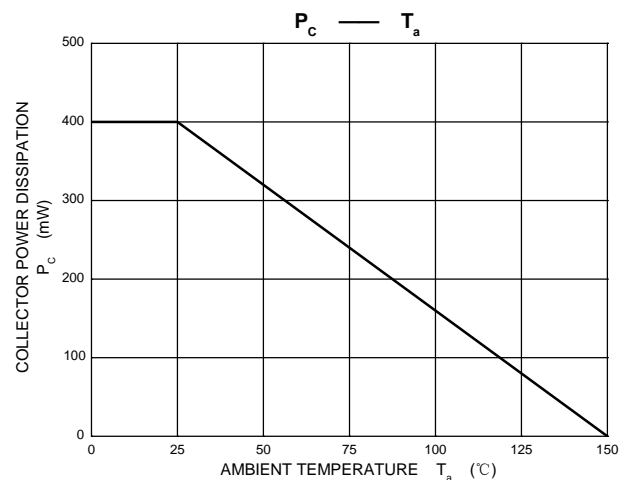
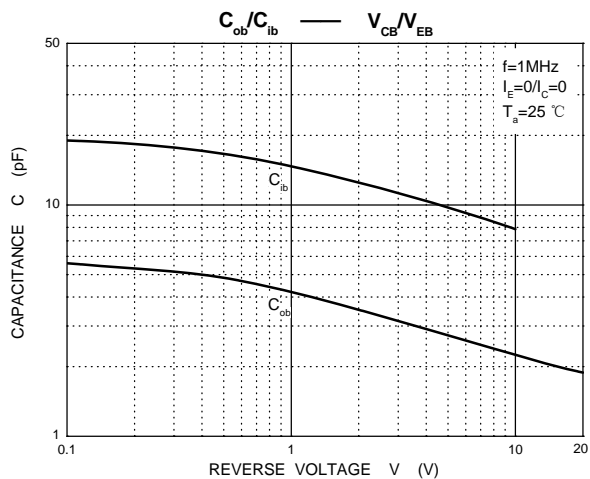
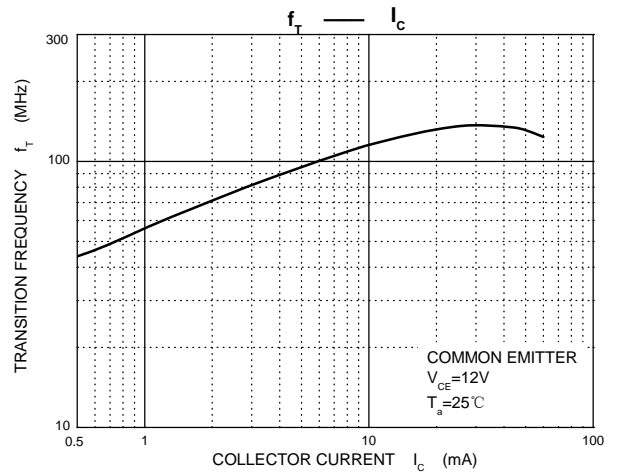
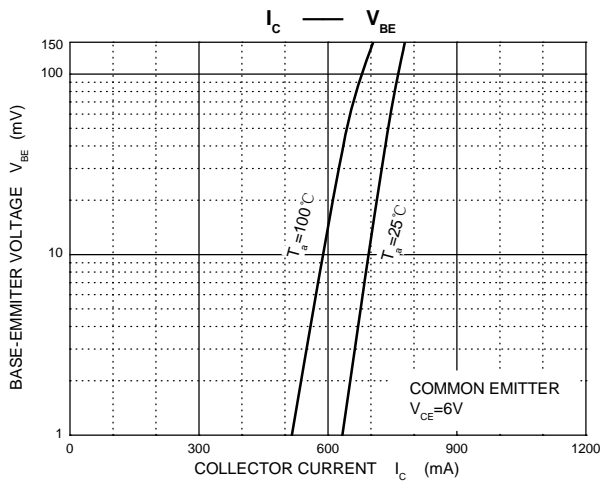
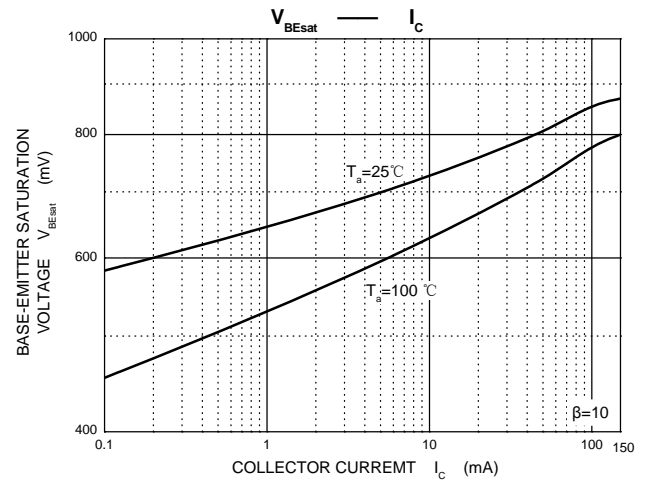
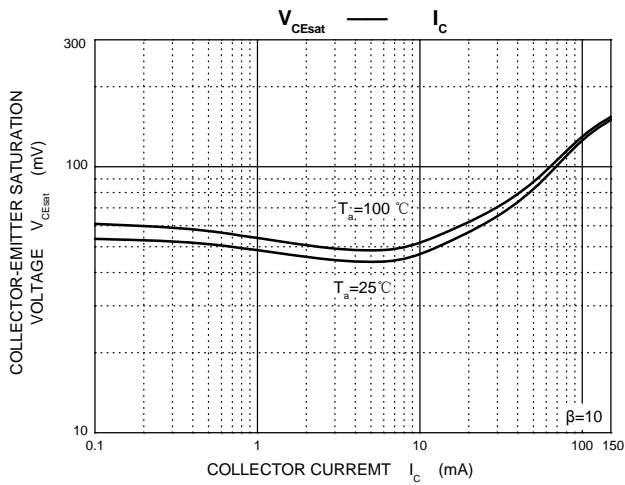
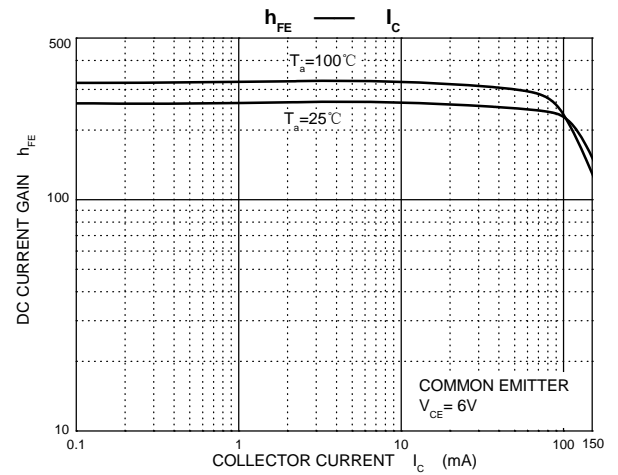
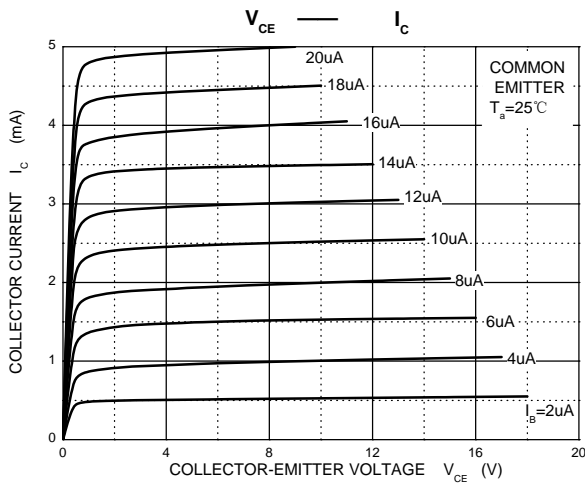
■ Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_c = 50 \mu A, I_E = 0$	60			V
Collector- emitter breakdown voltage	V_{CEO}	$I_c = 1 mA, I_B = 0$	50			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 50 \mu A, I_c = 0$	7			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 60 V, I_E = 0$			100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 7V, I_c = 0$			100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = 50 mA, I_B = 5mA$			0.4	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_c = 50 mA, I_B = 5mA$			1.2	
DC current gain	h_{FE}	$V_{CE} = 6V, I_c = 1mA$	120		560	
Collector output capacitance	C_{ob}	$V_{CB} = 12V, I_E = 0, f = 1MHz$		2	3.5	pF
Transition frequency	f_T	$V_{CE} = 12V, I_E = -2mA, f = 100MHz$	80			MHz

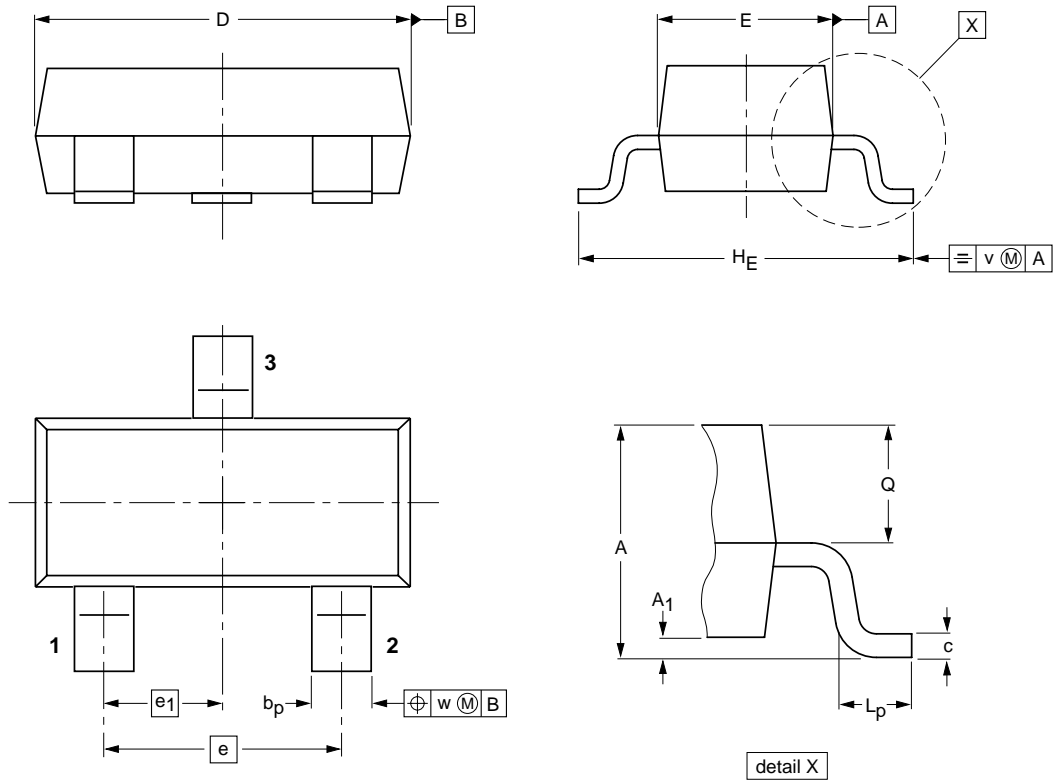
■ h_{FE} Classification

Type	2SC2412K-Q	2SC2412K-R	2SC2412K-S
Range	120-270	180-390	270-560
Marking	BQ	BR	BS

Typical Characteristics



■ SOT-23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1