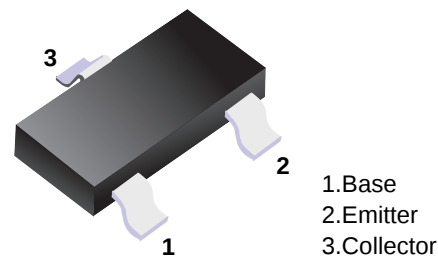


NPN Transistors



■ Features

- Collector Current Capability $I_C=20\text{mA}$
- Collector Emitter Voltage $V_{CEO}=30\text{V}$

■ Simplified outline(SOT-23)

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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	40	V
Collector - Emitter Voltage	V_{CEO}	30	
Emitter - Base Voltage	V_{EBO}	4	
Collector Current - Continuous	I_C	20	mA
Collector Power Dissipation	P_C	100	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	1000	$^\circ\text{C/W}$
Junction Temperature	T_J	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 125	

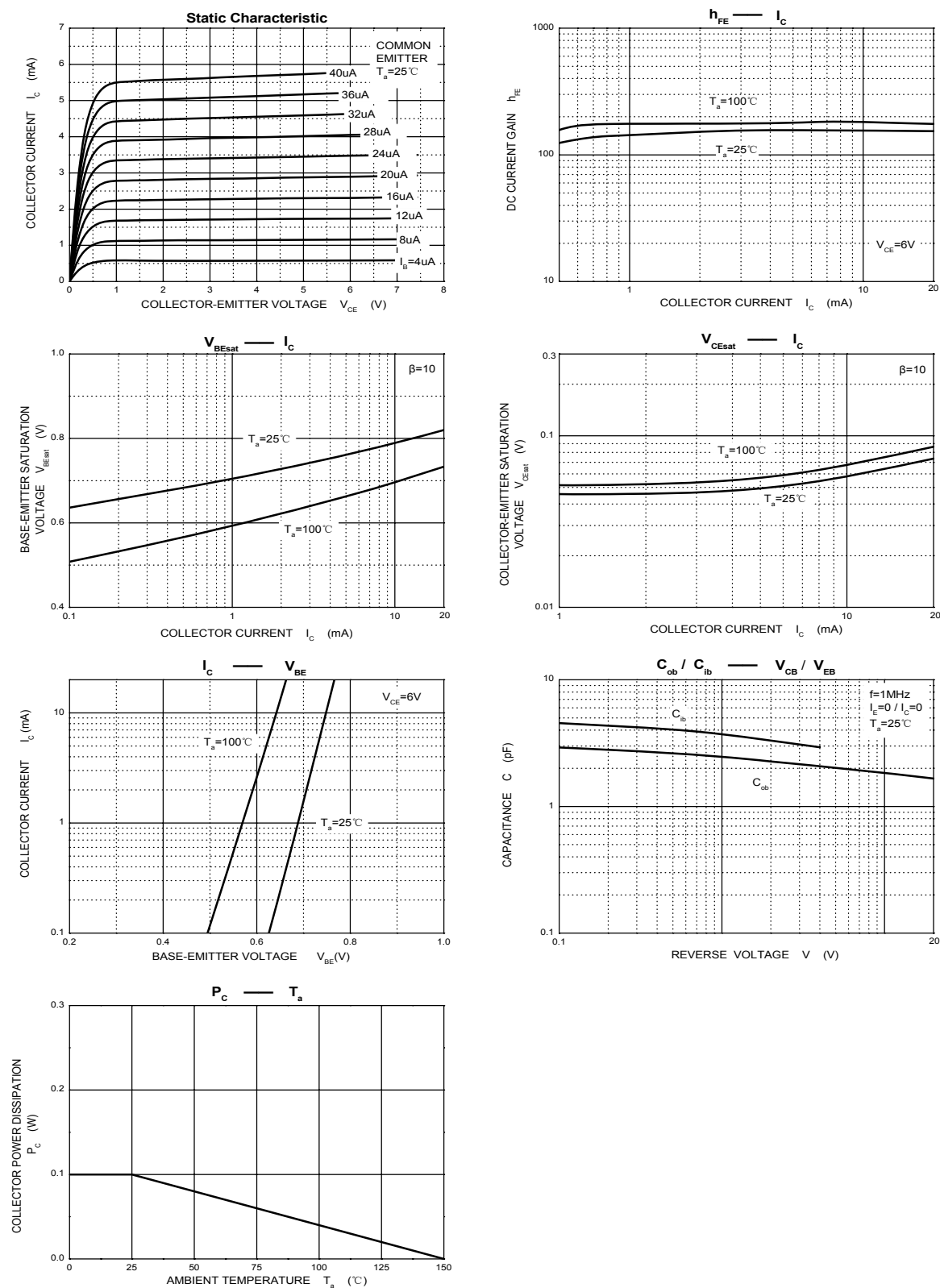
■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = 100\text{ }\mu\text{A}, I_E = 0$	40			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 1\text{ mA}, I_B = 0$	30			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100\text{ }\mu\text{A}, I_C = 0$	4			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 18\text{ V}, I_E = 0$			0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4\text{ V}, I_C = 0$			0.5	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100\text{ mA}, I_B = 10\text{ mA}$			0.4	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 100\text{ mA}, I_B = 10\text{ mA}$			1.2	
DC current gain	h_{FE}	$V_{CE} = 6\text{ V}, I_C = 1\text{ mA}$	40		200	
Noise Figure	NF	$V_{CE} = 6\text{ V}, I_E = -1\text{ mA}, f = 100\text{ MHz}$		2.5	5	dB
Reverse Transfer capacitance	C_{re}	$V_{CB} = 6\text{ V}, I_E = 0, f = 1\text{ MHz}$		0.7		pF
Transition frequency	f_T	$V_{CE} = 6\text{ V}, I_C = 1\text{ mA}$		550		MHz

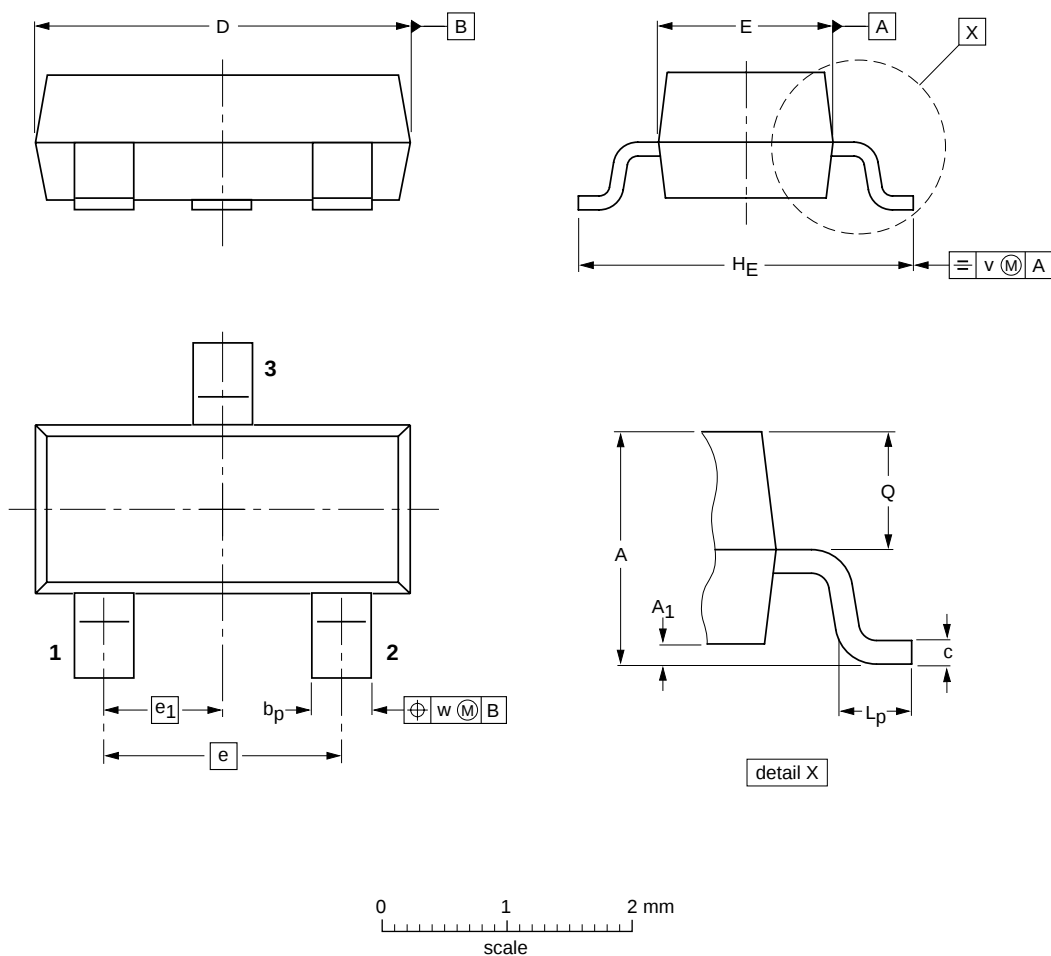
■ Classification of h_{FE}

Type	2SC2714-R	2SC2714-O	2SC2714-Y
Range	40-80	70-140	100-200
Marking	QR	QO	QY

■ 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