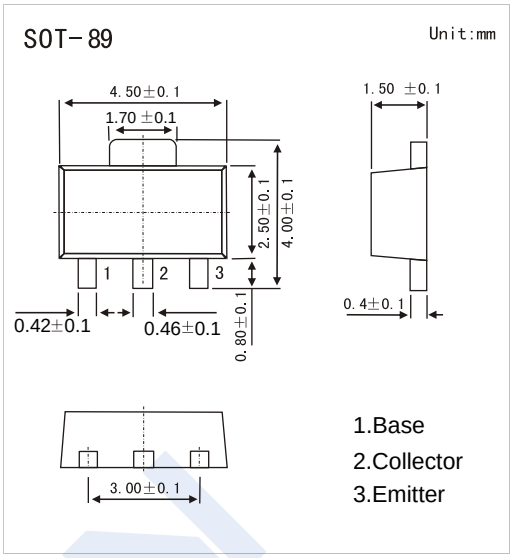
PNP Transistors

ZXTP2014Z (KXTP2014Z)



■ Features

- 3 amps continuous current
- Up to 10 amps peak current
- Very low saturation voltages
- Marking: 2014

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	-180	V
Collector - Emitter Voltage	V_{CEO}	-140	
Emitter - Base Voltage	V_{EBO}	-7	
Collector Current - Continuous	I_C	-3	A
Peak Pulse Current	I_{CM}	-10	
Power Dissipation at TA=25°C (a)	P_D	1.5	w
Power Dissipation at TA=25°C (b)		2.1	
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	83	℃/W
		60	
Junction Temperature	T_J	150	℃
Storage Temperature range	T_{stg}	-55 to 150	

NOTES:

(a) For a device surface mounted on 25mm x 25mm x 1.6mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions.
(b) For a device surface mounted on 50mm x 50mm x 1.6mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions.

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= -100 μA， I_E=0	-180			V
Collector-emitter breakdown voltage	V_{CER}	I_C = -1uA, RB≤ 1kΩ	-180			
Collector- emitter breakdown voltage	V_{CEO}	I_C= -10 mA*	-140			
Emitter - base breakdown voltage	V_{EBO}	I_E= -100μA， I_C=0	-7			
Collector-base cut-off current	I_{CBO}	V_{CB} = -150V			-20	nA
		V_{CB}= -150 V ,T_{amb}=100℃			-0.5	μA
Collector- emittercut-off current	I_{CER}	V_{CB} = -150V			-20	nA
		V_{CB} = -150V, T_{amb}=100℃			-0.5	μA
Emitter cut-off current	I_{EBO}	V_{EB} = -6V , I_C=0			-10	nA
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = -0.1A, I_B = -5mA*			-60	mV
		I_C = -0.5A, I_B = -50mA*			-75	
		I_C = -1A, I_B = -100mA*			-115	
		I_C = -3A, I_B = -300mA*			-330	
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C = -3A, I_B = -300mA*			-1010	
Base-emitter turn on voltage	$V_{BE(ON)}$	I_C = -3A, V_{CE} = -5V*			-900	
DC current gain	h_{FE}	I_C = -10mA, VCE = -5V*	100			
		I_C = -1A, V_{CE} = -5V*	100		300	
		I_C = -3A, V_{CE} = -5V*	45			
		I_C = -10A, V_{CE} = -5V*		5		
Collector output capacitance	C_{obo}	V_{CB}= -10V,f=1MHz*		33		pF
Switching times	t_{ON}	I_C = -1A, V_{CC} = -50V		42		ns
	t_{OFF}	I_{B1} = -I_{B2} = -100mA		636		
Transition frequency	f_T	I_C = -100mA, V_{CE} = -10V,f=50MHz		120		MHz

* Measured under pulsed conditions. Pulse width≤ 300μs; duty cycle≤2%.

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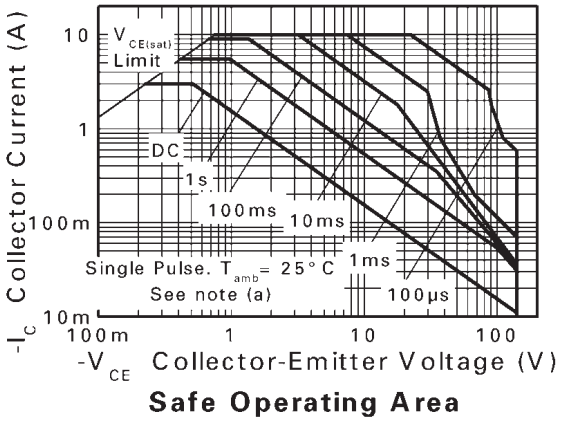
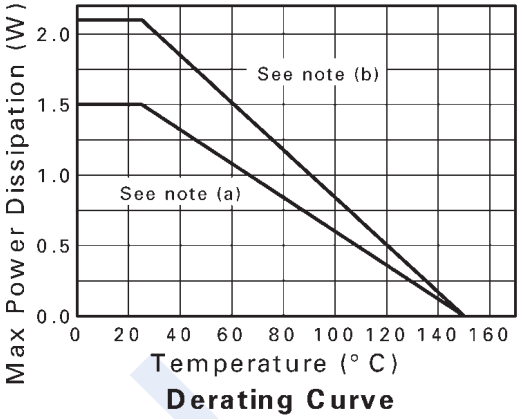
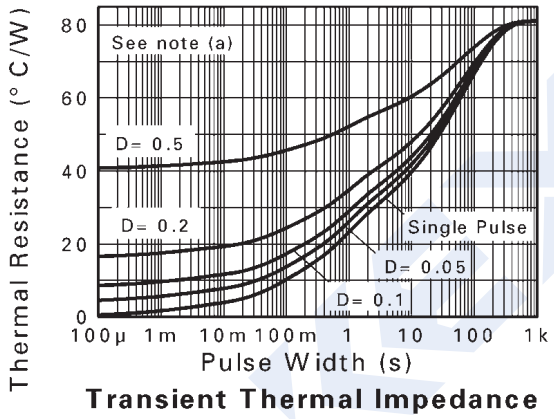
■ Typical Characterisitics



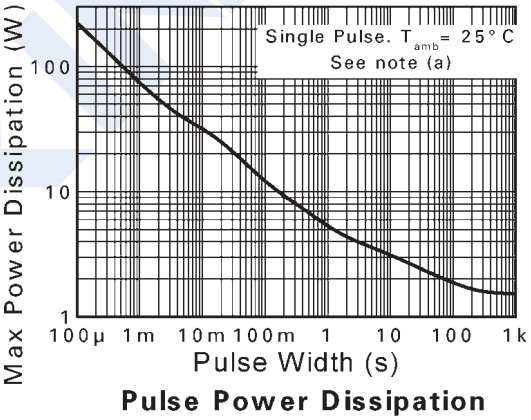
Safe Operating Area



Derating Curve



Transient Thermal Impedance



Pulse Power Dissipation

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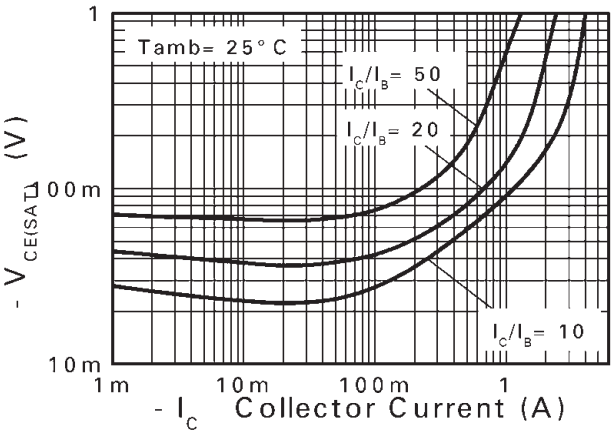
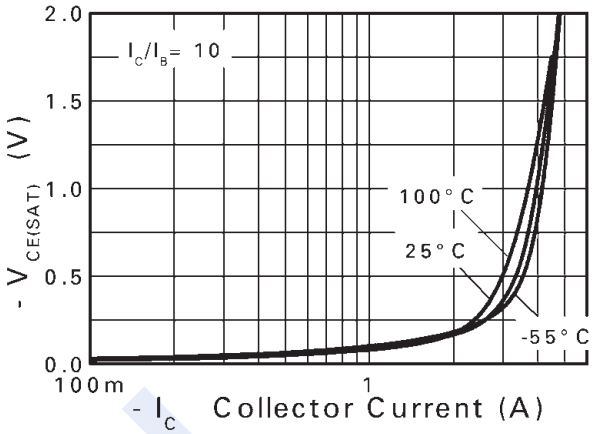
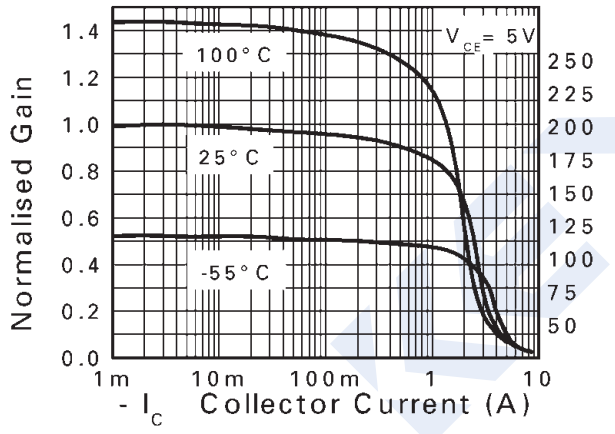


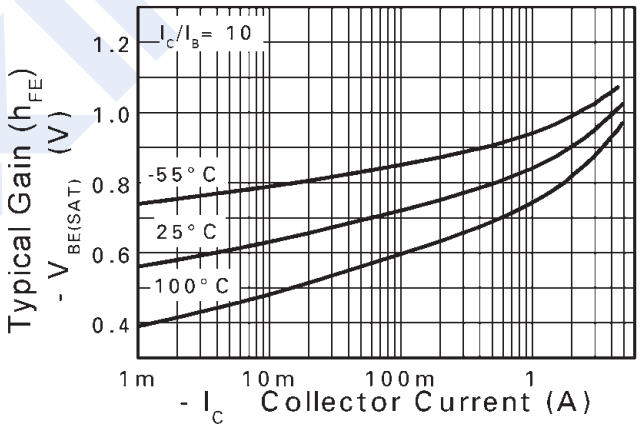
$V_{CE(SAT)}$ v I_C



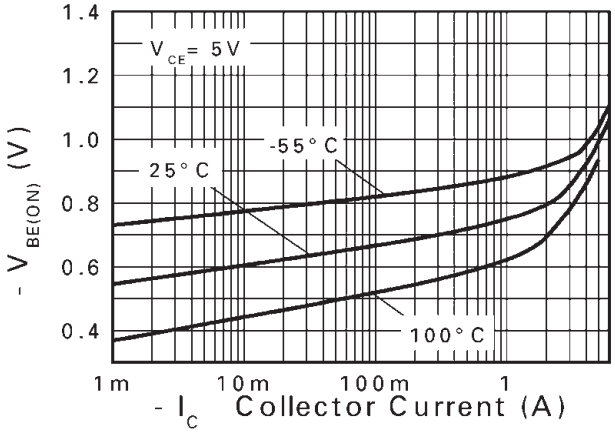
$V_{CE(SAT)}$ v I_C



h_{FE} v I_C



$V_{BE(SAT)}$ v I_C



$V_{BE(ON)}$ v I_C