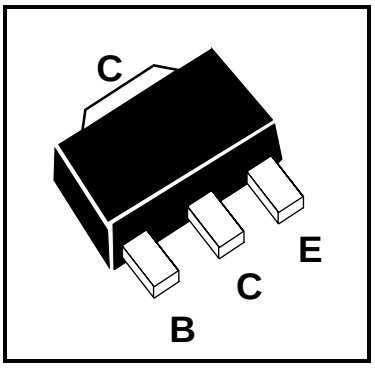
SOT89 PNP SILICON POWER (SWITCHING) TRANSISTOR

ISSUE 3 - OCTOBER 2005

FCX790A

FEATURES

* 2W POWER DISSIPATION
* 6A Peak Pulse Current
* Excellent H_{FE} Characteristics
* Low Saturation Voltages



Partmarking Detail - 790

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Peak Pulse Current **	I_{CM}	-6	A
Continuous Collector Current	I_C	-2	A
Power Dissipation at T_{amb}=25°C	P_{tot}	1 † 2 ‡	W W
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	°C

† recommended P_{tot} calculated using FR4 measuring 15x15x0.6mm

‡ Maximum power dissipation is calculated assuming that the device is mounted on FR4 substrate measuring 40x40x0.6mm and using comparable measurement methods adopted by other suppliers.

**Measured under pulsed conditions. Pulse width=300µs. Duty cycle ≤ 2%

Spice parameter data is available upon request for these devices

Refer to the handling instructions when soldering surface mount components.

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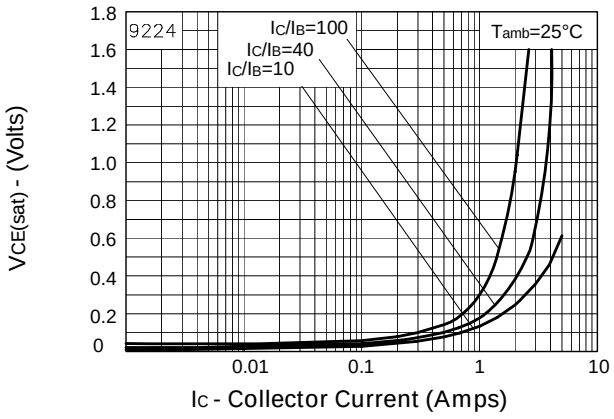
ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C)

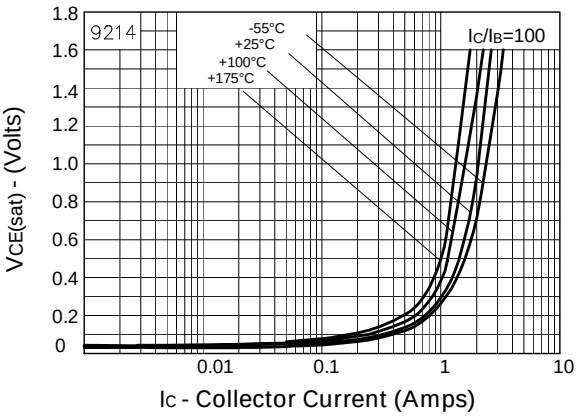
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-50			V	I_C=-100μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-40			V	I_C=-10mA*
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	I_E=-100μA
Collector Cut-Off Current	I_{CBO}			-0.1	μA	V_{CB}=-30V
Emitter Cut-Off Current	I_{EBO}			-0.1	μA	V_{EB}=-4V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-250 -350 -450	mV mV mV	I_C=-0.5A, I_B=-5mA* I_C=-1A, I_B=-10mA* I_C=-2A, I_B=-50mA*
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			-0.9	V	I_C=-1A, I_B=-10mA*
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-0.8		V	I_C=-1A, V_{CE}=-2V*
Static Forward Current Transfer Ratio	h_{FE}	300 250 200 150		800		I_C=-10mA, V_{CE}=-2V I_C=-500mA, V_{CE}=-2V* I_C=-1A, V_{CE}=-2V* I_C=-2A, V_{CE}=-2V*
Transition Frequency	f_T	100			MHz	I_C=-50mA, V_{CE}=-5V f=50MHz
Input Capacitance	C_{ibo}		225		pF	V_{EB}=-0.5V, f=1MHz
Output Capacitance	C_{obo}		24		pF	V_{CB}=-10V, f=1MHz
Switching Times	t_{on} t_{off}		35 600		ns ns	I_C=-500mA, I_{B1}=-50mA I_{B2}=-50mA, V_{CC}=-10V

*Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤2%

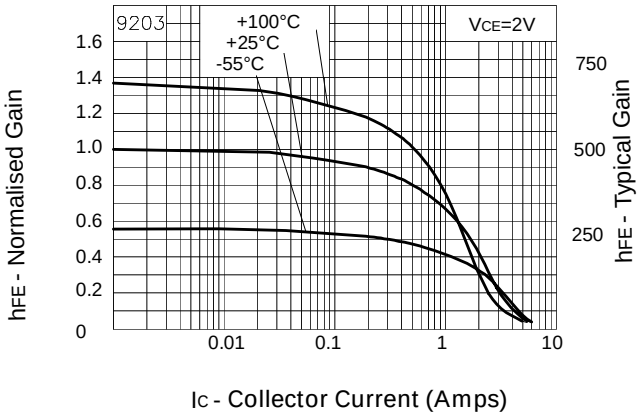
TYPICAL CHARACTERISTICS



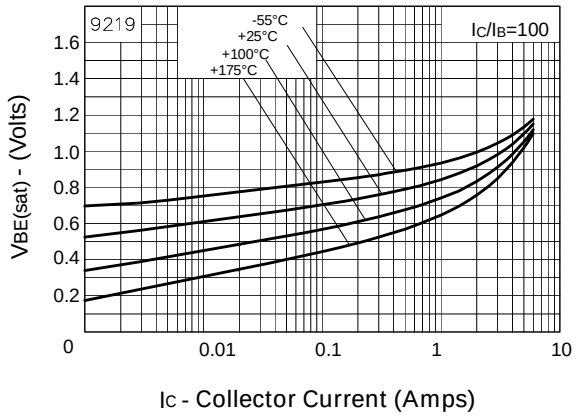
VCE(sat) v IC



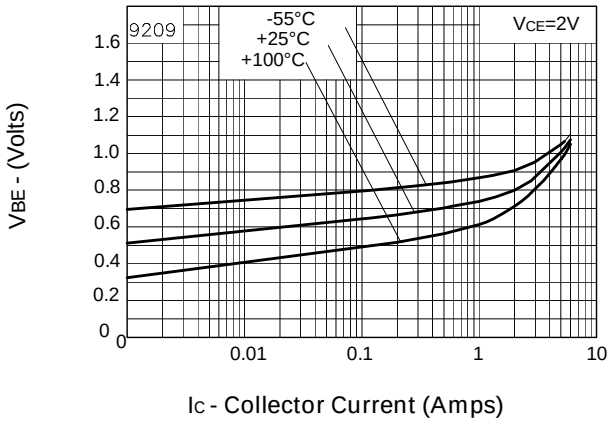
VCE(sat) v IC



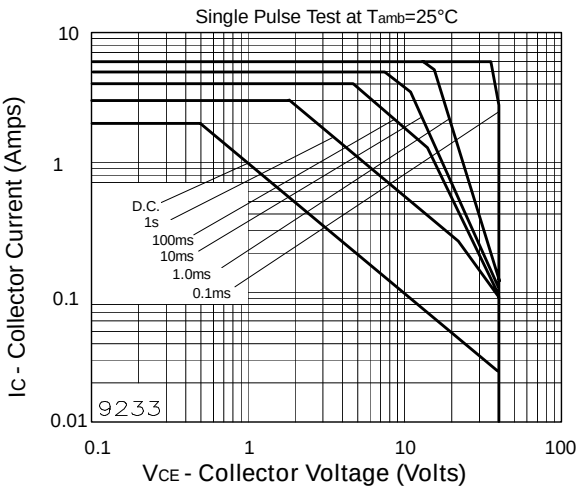
hFE v IC



VBE(sat) v IC



VBE(on) v IC



Safe Operating Area