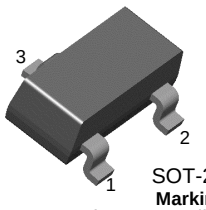
FAIRCHILD SEMICONDUCTOR®

January 2005

BCX20

NPN Epitaxial Silicon Transistor

Switching and Amplifier Applications



SOT-23
Marking: U2

1. Base 2. Emitter 3. Collector

Absolute Maximum Ratings T_a = 25°C unless otherwise noted

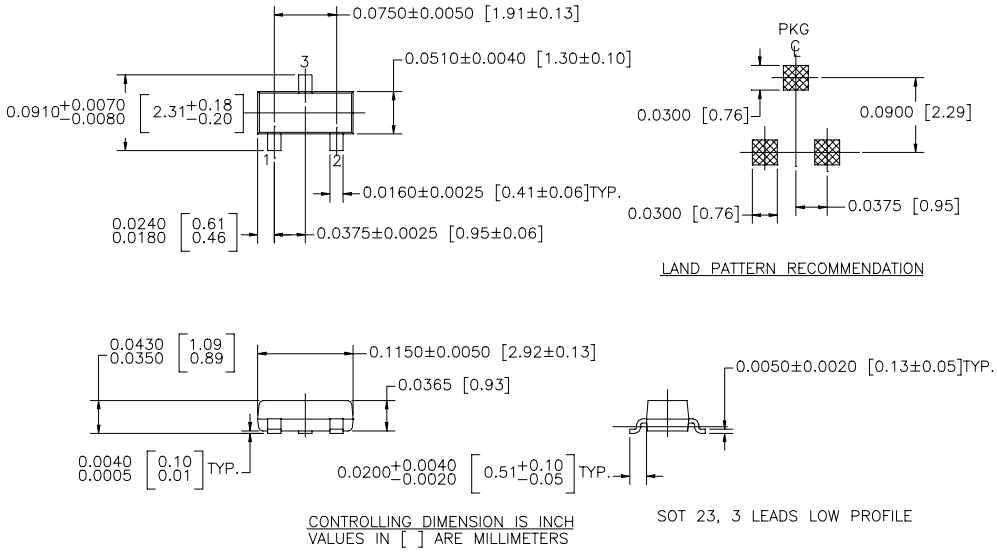
Symbol	Parameter	Value	Units
V_{CES}	Collector-Emitter Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current (DC)	800	A
P_C	Collector Dissipation	310	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-65 ~ 150	°C

Electrical Characteristics T_C = 25°C unless otherwise noted

Symbol	Parameter	Conditions	Min.	Max	Units
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 10mA, I_B = 0	25		V
BV_{CES}	Collector-Emitter Breakdown Voltage	I_C = 100μA, V_{BE} = 0	30		V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 10μA, I_C = 0	5		V
I_{CBO}	Collector Cut-off Current	V_{CE} = 20V, V_{BE} = 0		100	nA
I_{EBO}	Emitter-Base Cut-off Current	V_{BE} =5V, I_C = 0		10	nA
h_{FE1} h_{FE2} h_{FE3}	DC Current Gain	V_{CE} = 1V, I_C = 100mA V_{CE} = 1V, I_C = 300mA V_{CE} = 1V, I_C = 500mA	100 70 40	600	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C = 500mA, I_B = 50mA		0.62	V
$V_{BE(on)}$	Base-Emitter Saturation Voltage	V_{CE} = 1A, I_B = 500mA		1.2	V

Mechanical Dimensions

SOT-23



NOTE : UNLESS OTHERWISE SPECIFIED

1. STANDARD LEAD FINISH 150 MICROINCHES / 3.81 MICROMETERS MINIMUM TIN / LEAD (SOLDER) ON ALLOY 42
2. REFERENCE JEDEC REGISTRATION TO−236, VARIATION AB, ISSUE G, DATED JUL 1993

Dimensions in Millimeters

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DOME™	GTO™	MicroPak™	QFET®	SuperSOT™-8
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FACT Quiet Series™		OCXPro™	RapidConnect™	UHC™
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The Power Franchise®		OPTOPLANAR™	SILENT SWITCHER®	UniFET™
Programmable Active Droop™		PACMAN™	SMART START™	VCX™

PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.