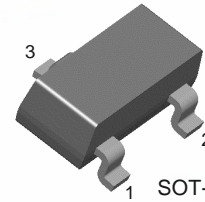


FAIRCHILD
SEMICONDUCTOR®

FJV1845

Amplifier Transistor

- Complement to FJV992



1. Base 2. Emitter 3. Collector

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CB0}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	50	mA
I_B	Base Current	10	mA
P_C	Collector Dissipation	300	mW
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

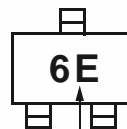
Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
I_{CB0}	Collector Cut-off Current	$V_{CB}=120\text{V}, I_E=0$			50	nA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=5\text{V}, I_C=0$			50	nA
h_{FE1}	DC Current Gain	$V_{CE}=6\text{V}, I_C=0.1\text{mA}$	150	580		
h_{FE2}		$V_{CE}=6\text{V}, I_C=1\text{mA}$	200	600	1200	
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE}=6\text{V}, I_C=1\text{mA}$	0.55	0.59	0.65	V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=10\text{mA}, I_B=1\text{mA}$		0.07	0.3	V
f_T	Current Gain Bandwidth Product	$V_{CE}=6\text{V}, I_C=1\text{mA}$	50	110		MHz
C_{ob}	Output Capacitance	$V_{CB}=30\text{V}, I_E=0, f=1\text{MHz}$		1.6	2.5	pF

h_{FE2} Classification

Classification	P	F	E	U
h_{FE2}	200 ~ 400	300 ~ 600	400 ~ 800	600 ~ 1200

Marking



h_{FE} Classification

Typical Characteristics

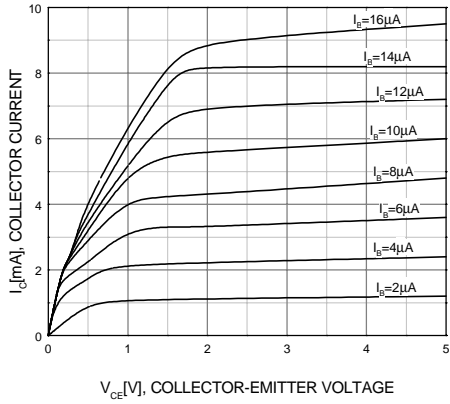


Figure 1. Static Characteristic

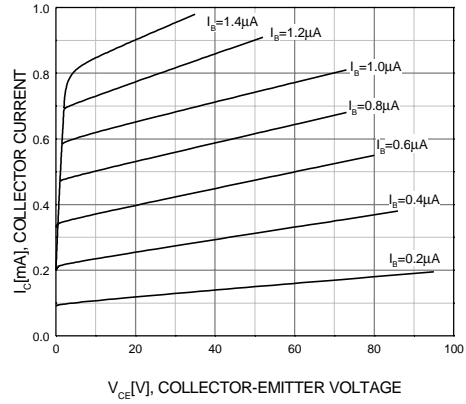


Figure 2. Static Characteristic

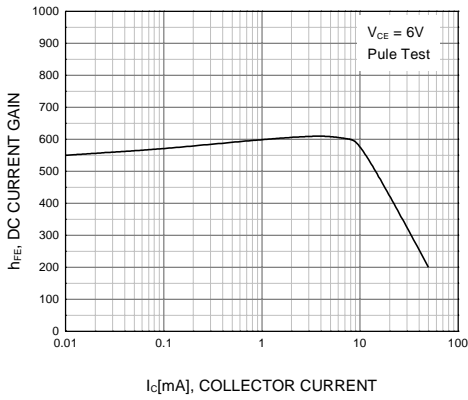


Figure 3. DC current Gain

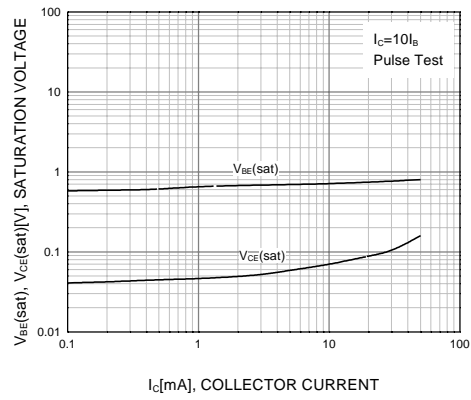


Figure 4. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

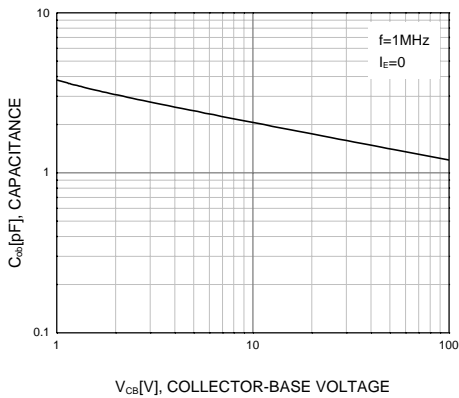


Figure 5. Collector Output Capacitance

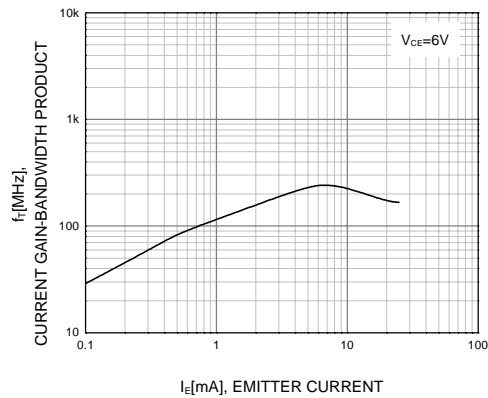


Figure 6. Current Gain Bandwidth Product

Typical Characteristics (Continued)

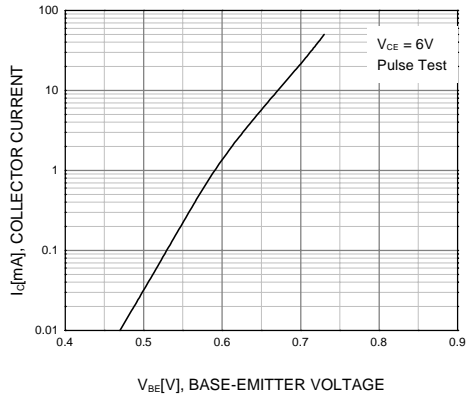


Figure 7. Collector Current vs. Base-Emitter Voltage

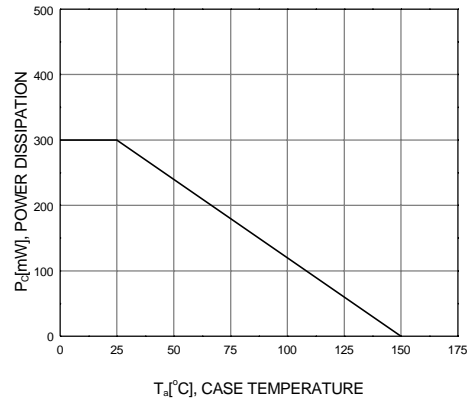
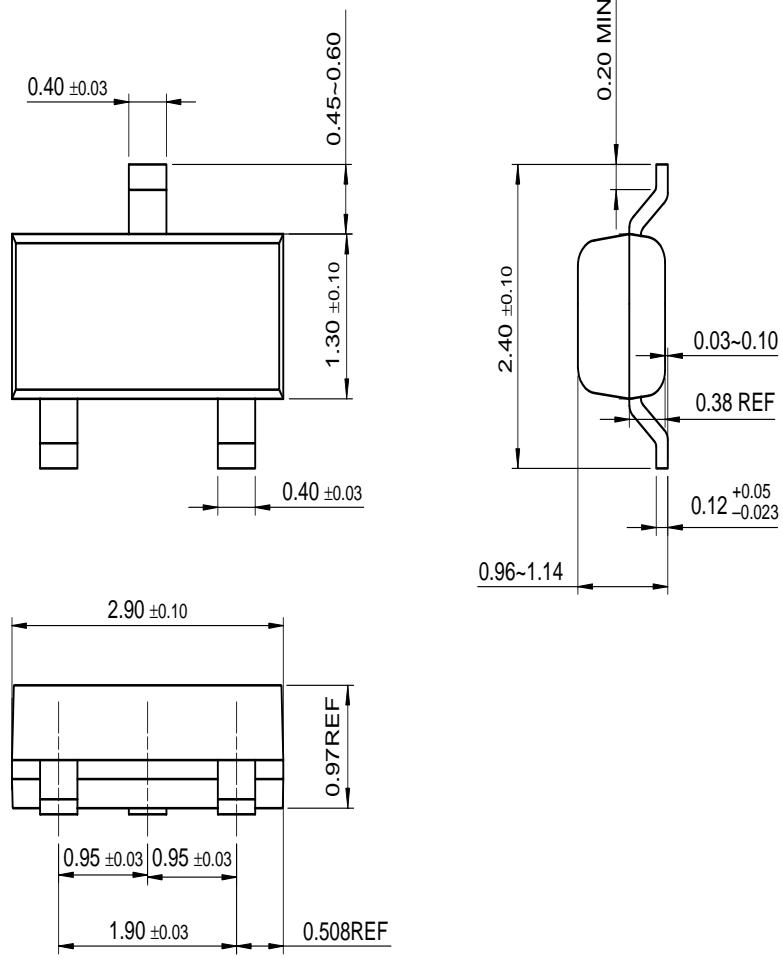


Figure 8. Power Derating

Package Dimensions

SOT-23



Dimensions in Millimeters

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Bottomless™	FAST®	LittleFET™	Power247™	SuperSOT™-3
CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOMET™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E ² CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I ² C™	OCX™	RapidConfigure™	UHC™
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The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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PRODUCT STATUS DEFINITIONS

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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.
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