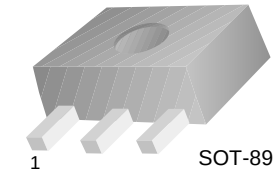
FAIRCHILD SEMICONDUCTOR®

July 2007

FJC690
NPN Epitaxial Silicon Transistor

Camera Strobe Flash Application

- Complement to FJC790
- High Collector Current
- Low Collector-Emitter Saturation Voltage

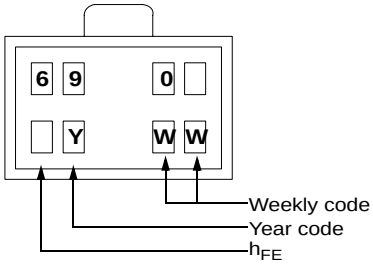


1

SOT-89

1. Base 2. Collector 3. Emitter

Marking



Absolute Maximum Ratings T_a = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	45	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current (DC)	2	A
P_C	Power Dissipation	0.5	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 55 ~ 150	°C

Electrical Characteristics T_a = 25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = 100μA, I_E = 0	45			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 10mA, I_B = 0	45			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 100μA, I_C = 0	5			V
I_{CEO}	Collector Cut-off Current	V_{CE} = 35V, V_B = 0			0.1	μA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 4V, I_C = 0			0.1	μA
h_{FE}	DC Current Gain	V_{CE} = 2V, I_C = 100mA V_{CE} = 2V, I_C = 1mA V_{CE} = 2V, I_C = 2mA	500 400 150			
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 0.1A, I_B = 0.5mA I_C = 1A, I_B = 5mA			80 300	mV mV
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = 1A, I_B = 10mA			0.9	V
V_{BE}(on)	Base-Emitter On Voltage	V_{CE} = 2V, I_C = 1A			0.85	V
C_{OB}	Collector Output Capacitance	V_{CB} = 10V, I_E = 0, f = 1MHz		20		pF

©2007 Fairchild Semiconductor Corporation

Downloaded from Elcodis.com electronic components distributor

Package Marking and Ordering Information

Device Marking	Device	Package	Reel Size	Tape Width	Quantity
690	FJC690	SOT-89	13”	--	4,000

Downloaded from Elcodis.com electronic components distributor

Typical Performance Characteristics

Figure 1. DC current Gain

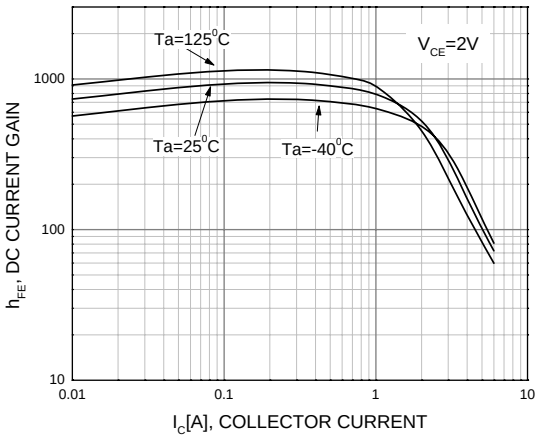


Figure 2. Collector-Emitter Saturation Voltage

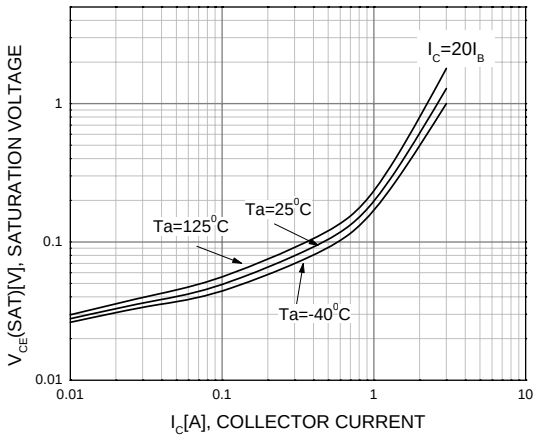
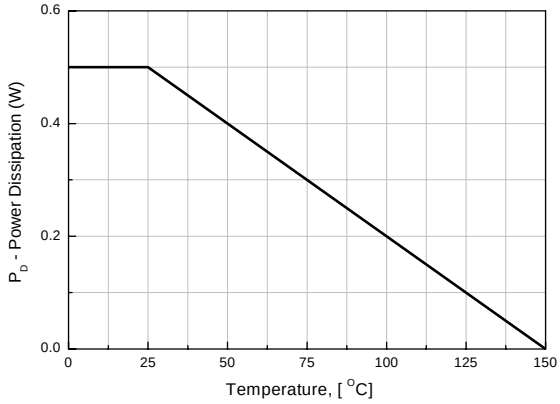


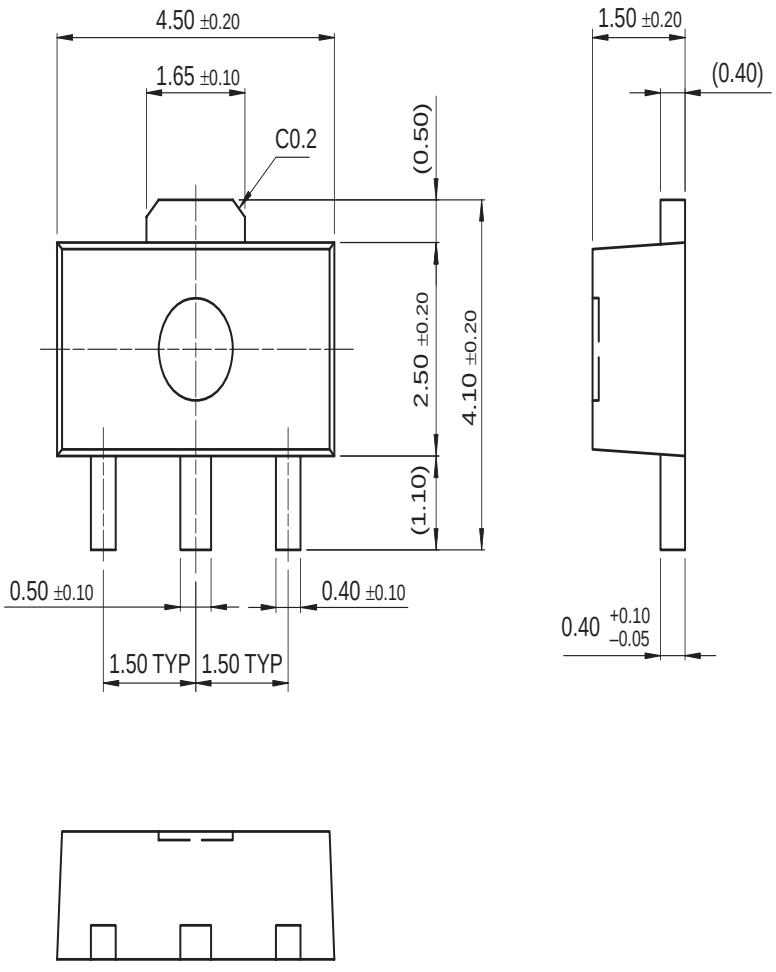
Figure 3. Power Dissipation vs Ambient Temperature



Downloaded from Elcodis.com electronic components distributor

Mechanical Dimensions

SOT-89



Dimensions in Millimeters

Downloaded from Elcodis.com electronic components distributor

FAIRCHILD
SEMICONDUCTOR®

TRADEMARKS

The following are registered and unregistered trademarks and service marks Fairchild Semiconductor owns or is authorized to use and is not intended to be an exhaustive list of all such trademarks.

ACEx®
Build it Now™
CorePLUS™
CROSSVOLT™
CTL™
Current Transfer Logic™
EcoSPARK®
F®
Fairchild®
Fairchild Semiconductor®
FACT Quiet Series™
FACT®
FAST®
FastvCore™
FPS™
FRFET®
Global Power Resource℠
Green FPS™
Green FPS™ e-Series™
GTO™
i-Lo™
IntelliMAX™
ISOPLANAR™
MegaBuck™
MICROCOUPLER™
MicroFET™
MicroPak™
Motion-SPM™
OPTOLOGIC®
OPTOPLANAR®
®
PDP-SPM™
Power220®
Power247®
POWEREDGE®
Power-SPM™
PowerTrench®
Programmable Active Droop™
QFET®
QS™
QT Optoelectronics™
Quiet Series™
RapidConfigure™
SMART START™
SPM®
STEALTH™
SuperFET™
SuperSOT™-3
SuperSOT™-6
SuperSOT™-8
SyncFET™
The Power Franchise®
the power franchise
TinyBoost™
TinyBuck™
TinyLogic®
TINYOPTO™
TinyPower™
TinyPWM™
TinyWire™
µSerDes™
UHC®
UniFET™
VCX™

DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION, OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS. THESE SPECIFICATIONS DO NOT EXPAND THE TERMS OF FAIRCHILD'S WORLDWIDE TERMS AND CONDITIONS, SPECIFICALLY THE WARRANTY THEREIN, WHICH COVERS THESE PRODUCTS.

LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF FAIRCHILD SEMICONDUCTOR CORPORATION.

As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice 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 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.

Downloaded from Elcodis.com electronic components distributor