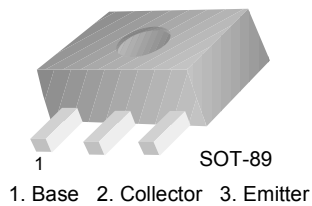


KSC2982

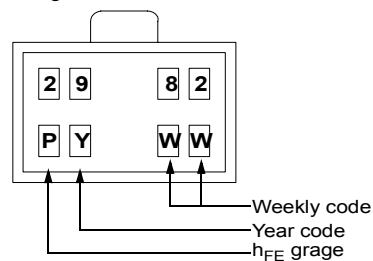
NPN Epitaxial Silicon Transistor

Strobe Flash & Medium Power Amplifier

- Excellent h_{FE} Linearity : $h_{FE1}=140 \sim 600$
- Low Collector-Emitter Saturation Voltage : $V_{CE(sat)}=0.5V$
- Collector Dissipation : $P_C=1\sim 2W$ in Mounted on Ceramic Board



Marking



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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	30	V
V_{CES}	Collector-Emitter Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	10	V
V_{EBO}	Emitter Base Voltage	6	V
I_C	Collector Current (DC)	2	A
I_{CP}	Collector Current (Pulse) *	4	A
I_B	Base Current (DC)	0.4	A
I_{BP}	Base Current (Pulse) *	0.8	A
P_C P_C^*	Collector Power Dissipation	500 1,000	mW mW
T_J	Junction Temperature	150	$^\circ C$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ C$

* $PW \leq 10ms$, Duty Cycle $\leq 30\%$

Mounted on Ceramic Board (250mm² x 0.8mm)

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}, I_B = 0$	10			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 1\text{mA}, I_C = 0$	6			V
I_{CBO}	Collector Cut-off Current	$V_{CB} = 30\text{V}, I_E = 0$			100	nA
I_{EBO}	Emitter Cut-off Current	$V_{BE} = 6\text{V}, I_C = 0$			100	nA
h_{FE1} h_{FE2}	DC Current Gain	$V_{CE} = 1\text{V}, I_C = 0.5\text{A}$ $V_{CE} = 1\text{V}, I_C = 2\text{A}$	140 70	140	600	
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C = 2\text{A}, I_B = 50\text{mA}$		0.2	0.5	V
$V_{BE}(\text{on})$	Base-Emitter On Voltage	$V_{CE} = 1\text{V}, I_C = 2\text{A}$		0.86	1.5	V
f_T	Current Gain Bandwidth Product	$V_{CE} = 1\text{V}, I_C = 2\text{A}$		150		MHz
C_{ob}	Output Capacitance	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$		27		pF

 h_{FE} Classification

Classification	A	B	C	D
h_{FE1}	140 ~ 240	200 ~ 330	300 ~ 450	420 ~ 600

Package Marking and Ordering Information

Device Marking	Device	Package	Reel Size	Tape Width	Quantity
2982	KSC2982	SOT-89	13"	--	4,000

Typical Performance Characteristics

Figure 1. Static Characteristic

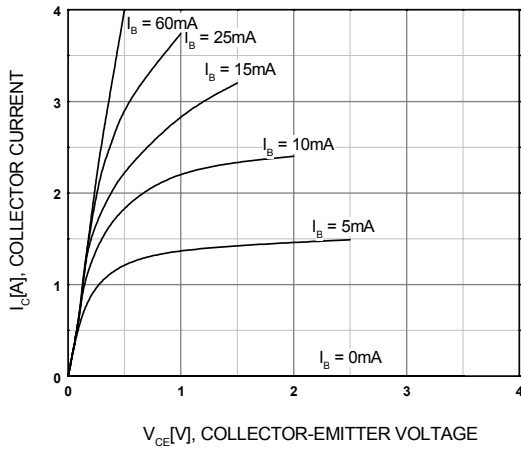


Figure 2. DC Current Gain

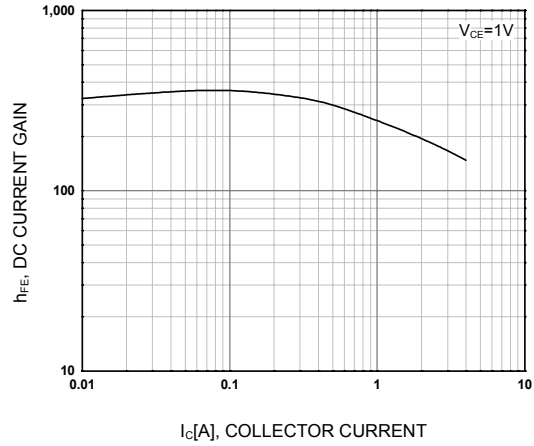


Figure 3. DC Collector-Emitter Saturation Voltage

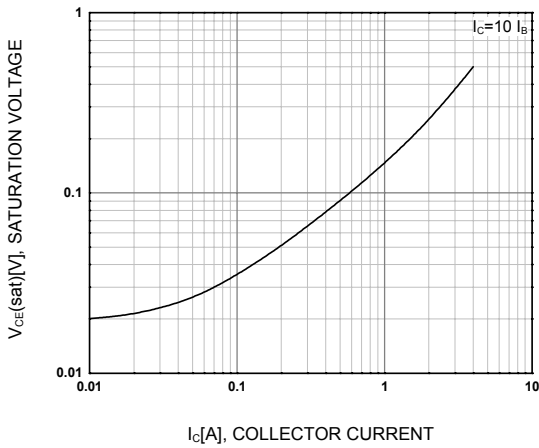


Figure 4. Base-Emitter On Voltage

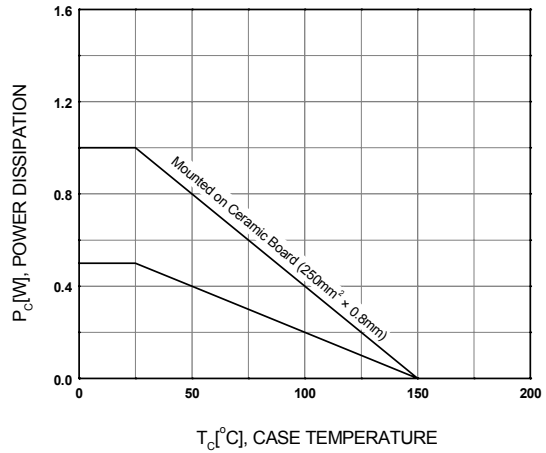


Figure 5. Safe Operating Area

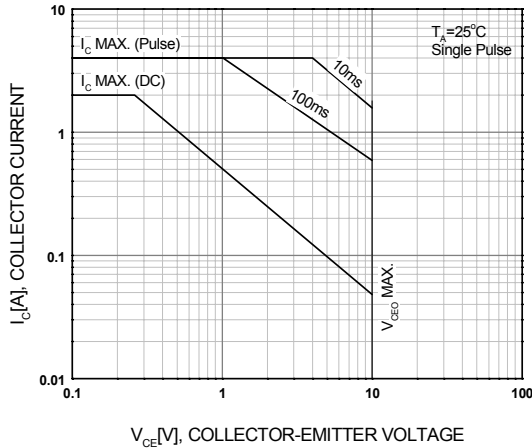
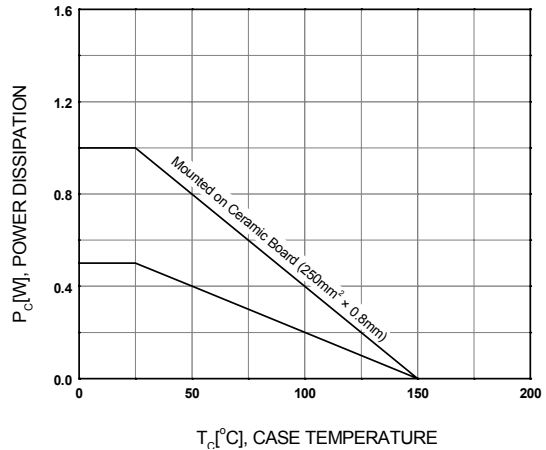
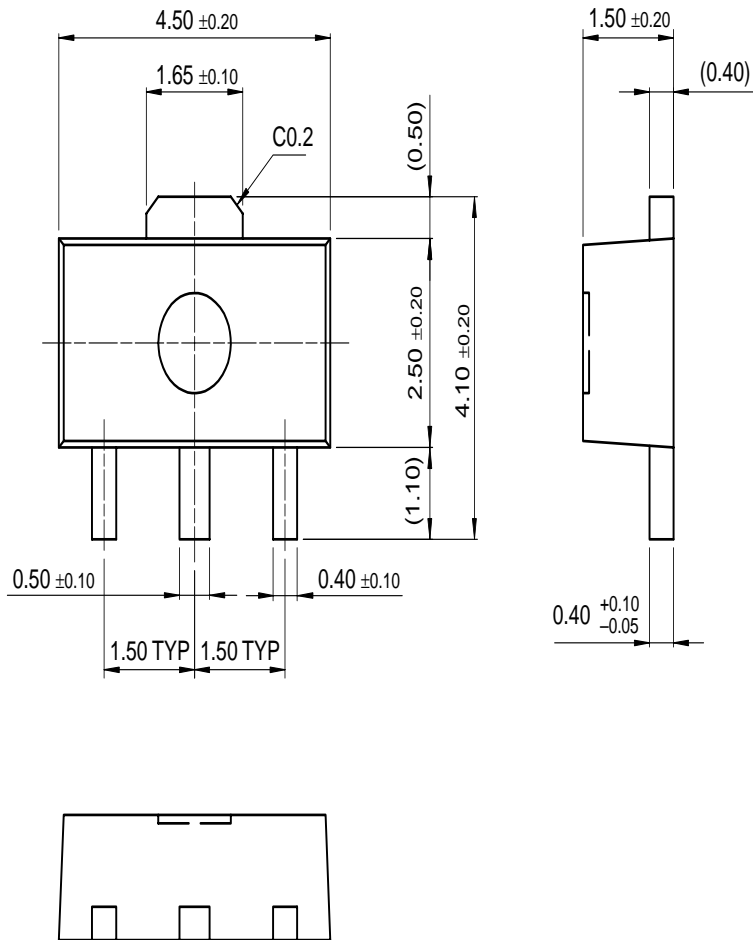


Figure 6. Power Derating



Mechanical Dimensions

SOT-89



Dimensions in Millimeters

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Build it Now™	FRFET™	MicroFET™	QS™	TINYOPTO™
CoolFET™	GlobalOptoisolator™	MicroPak™	QT Optoelectronics™	TruTranslation™
CROSSVOLT™	GTO™	MICROWIRE™	Quiet Series™	UHC™
DOME™	HiSeC™	MSX™	RapidConfigure™	UltraFET®
EcoSPARK™	I ² C™	MSXPro™	RapidConnect™	UniFET™
E ² CMOS™	i-Lo™	OCX™	μSerDes™	VCX™
EnSigna™	ImpliedDisconnect™	OCXPro™	SILENT SWITCHER®	Wire™
FACT™	IntelliMAX™	OPTOLOGIC®	SMART START™	
FACT Quiet Series™		OPTOPLANAR™	SPM™	
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Programmable Active Droop™		Power247™	SuperSOT™-3	
		PowerEdge™	SuperSOT™-6	

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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.

Rev. 116

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KSC2982

NPN Epitaxial Silicon Transistor

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Features

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Product	Product status	Pb-free Status	Pricing*	Package type	Leads	Packing method	Package Marking Convention**
KSC2982ATF	Full Production	Full Production	\$0.133	SOT-89	3	TAPE REEL	Line 1: 2982 Line 2: A&3
KSC2982BTF	Full Production	Full Production	\$0.133	SOT-89	3	TAPE REEL	Line 1: 2982 Line 2: B&3

KSC2982BTF_NL	Full Production	 Full Production	N/A	SOT-89	3	TAPE REEL	Line 1: 2982 Line 2: B&3
KSC2982CTF	Full Production	 Full Production	\$0.133	SOT-89	3	TAPE REEL	Line 1: 2982 Line 2: C&3
KSC2982DTF	Full Production	 Full Production	\$0.133	SOT-89	3	TAPE REEL	Line 1: 2982 Line 2: D&3

* Fairchild 1,000 piece Budgetary Pricing

** A sample button will appear if the part is available through Fairchild's on-line samples program. If there is no sample button, please contact a [Fairchild distributor](#) to obtain samples



Indicates product with Pb-free second-level interconnect. For more information [click here](#).

Package marking information for product KSC2982 is available. [Click here for more information](#).

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Qualification Support

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Product
KSC2982ATF
KSC2982BTF
KSC2982BTF_NL
KSC2982CTF
KSC2982DTF

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