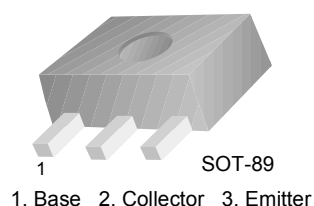


KSC2982

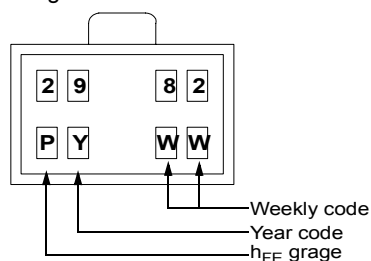
NPN Epitaxial Silicon Transistor

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

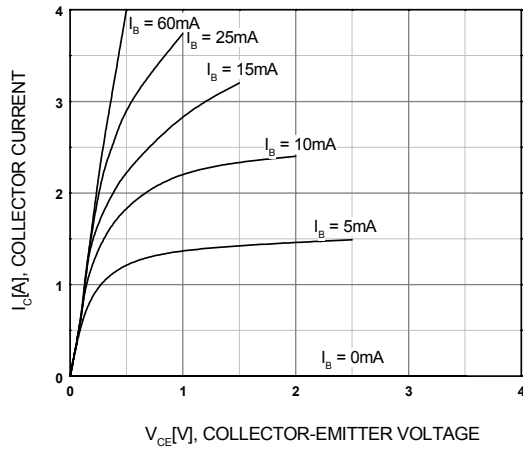


Figure 2. DC Current Gain

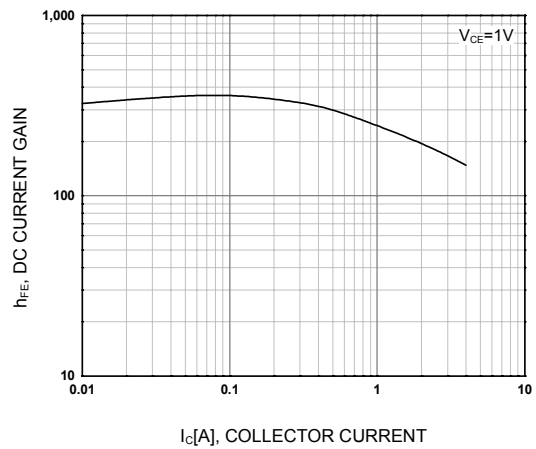


Figure 3. DCollector-Emitter Saturation Voltage

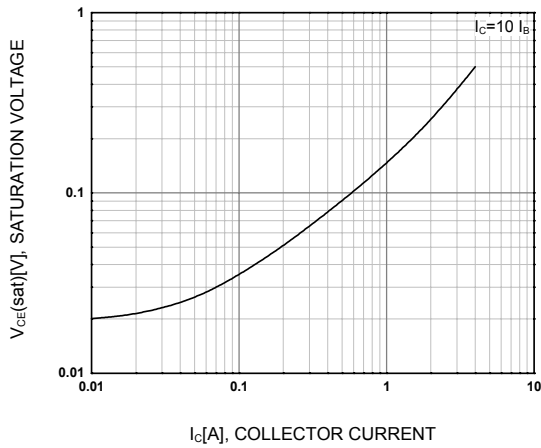


Figure 4. Base-Emitter On Voltage

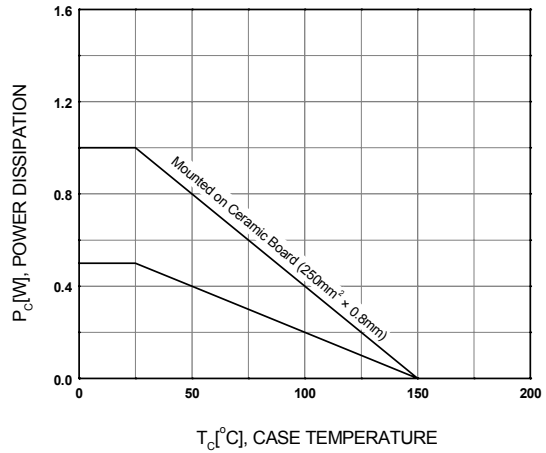


Figure 5. Safe Operating Area

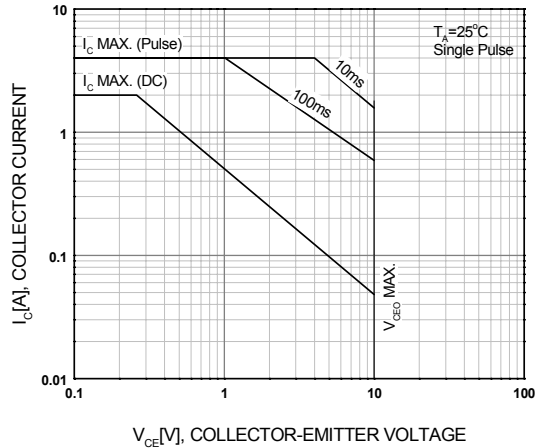
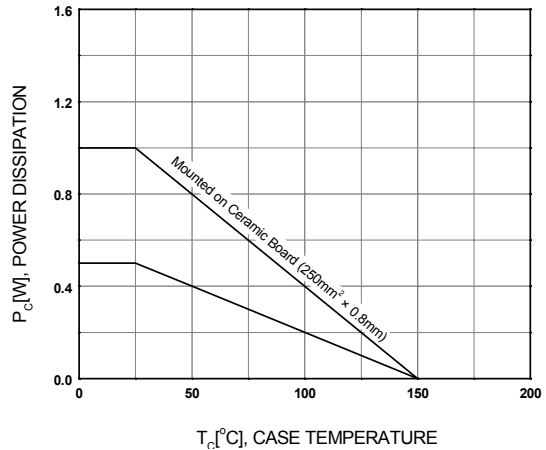


Figure 6. Power Derating



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EcoSPARK™	I ² C™	MSXPro™	RapidConnect™	UniFET™
E ² C MOS™	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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The Power Franchise®		POP™	SuperFET™	
Programmable Active Droop™		Power247™	SuperSOT™-3	
		PowerEdge™	SuperSOT™-6	

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PRODUCT STATUS DEFINITIONS

Definition of Terms

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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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