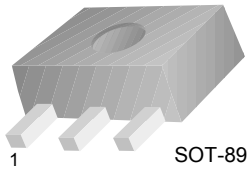
FAIRCHILD
SEMICONDUCTOR®

July 2005

KSC2982
NPN Epitaxial Silicon Transistor

Strobe Flash & Medium Power Amplifier

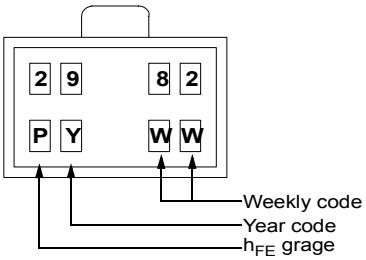
- Excellent h_{FE} Linearity : h_{FE1}=140 ~ 600
- Low Collector-Emitter Saturation Voltage : V_{CE}(sat)=0.5V
- Collector Dissipation : P_C=1~2W in Mounted on Ceramic Board



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	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	°C
T_{STG}	Storage Temperature	-55 ~ 150	°C

* PW ≤ 10ms, Duty Cycle ≤ 30%

Mounted on Ceramic Board (250mm^2 x 0.8mm)

Electrical Characteristics T_a = 25°C unless otherwise noted

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

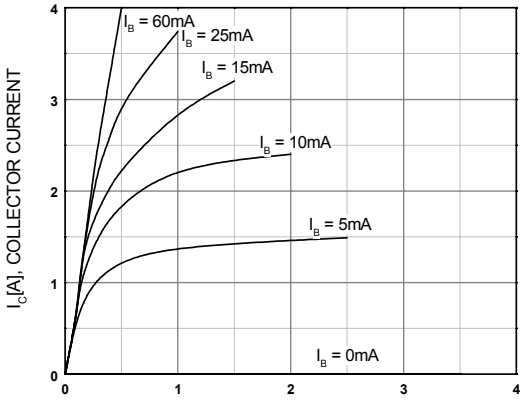


Figure 2. DC Current Gain

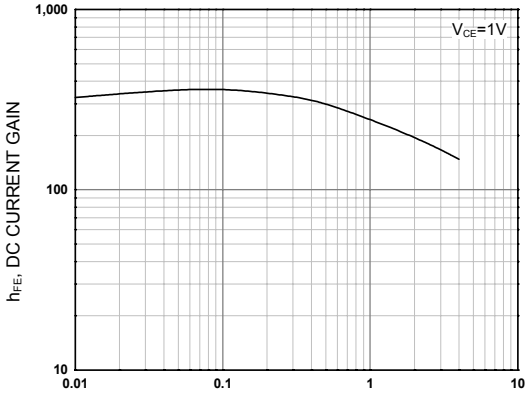


Figure 3. DCollector-Emitter Saturation Voltage

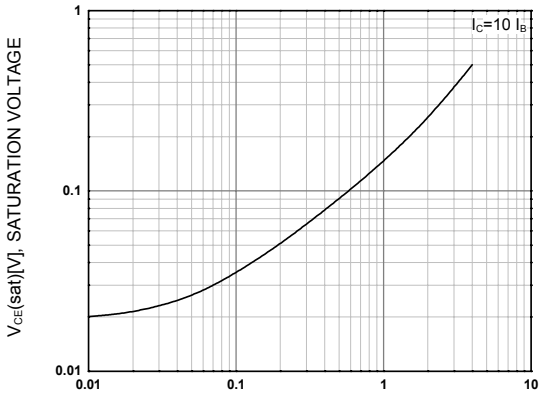


Figure 4. Base-Emitter On Voltage

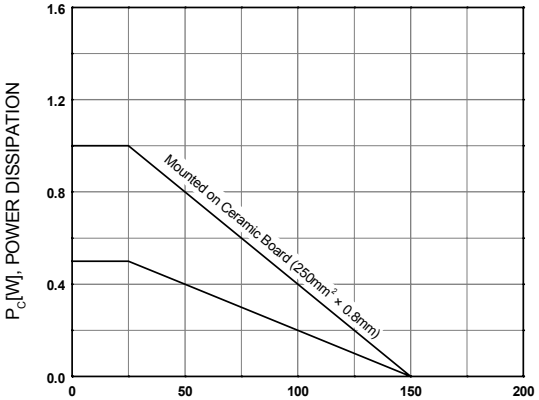


Figure 5. Safe Operating Area

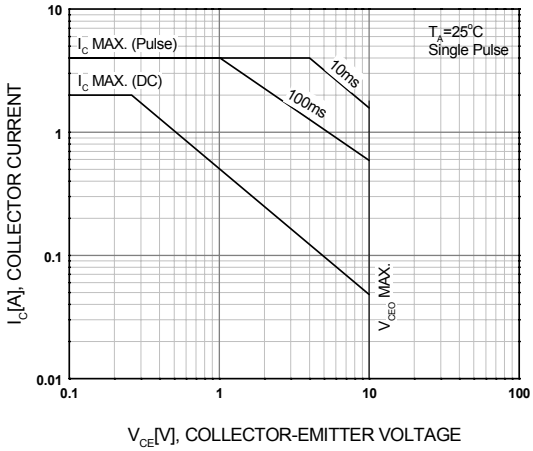
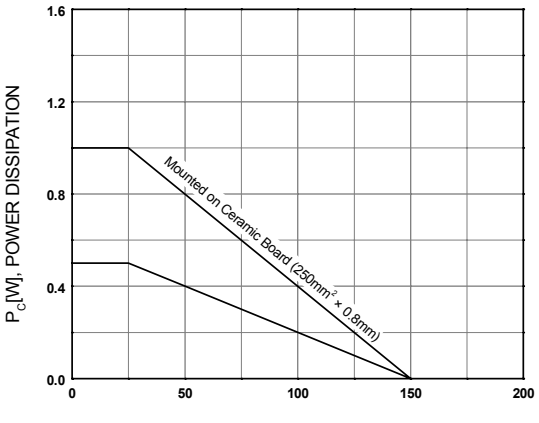
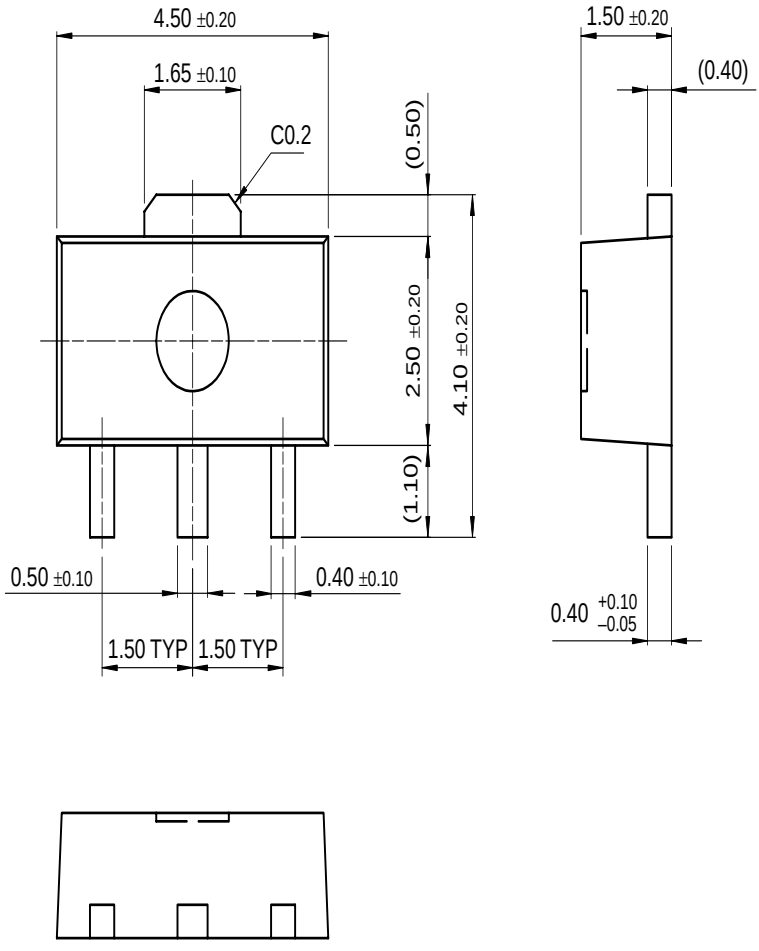


Figure 6. Power Derating



Mechanical Dimensions

SOT-89



Dimensions in Millimeters

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