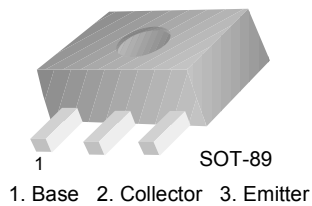


# KSC2982

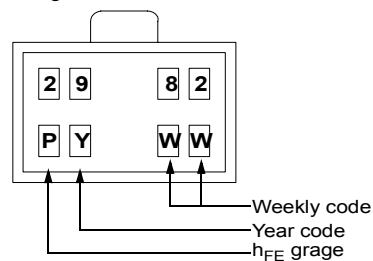
## NPN Epitaxial Silicon Transistor

### 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 (250mm<sup>2</sup> 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**

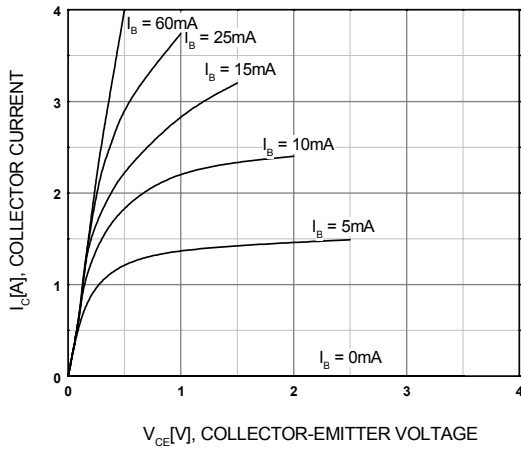
Classification	A	B	C	D
$h_{FE1}$	140 ~ 240	200 ~ 330	300 ~ 450	420 ~ 600

**Package Marking and Ordering Information**

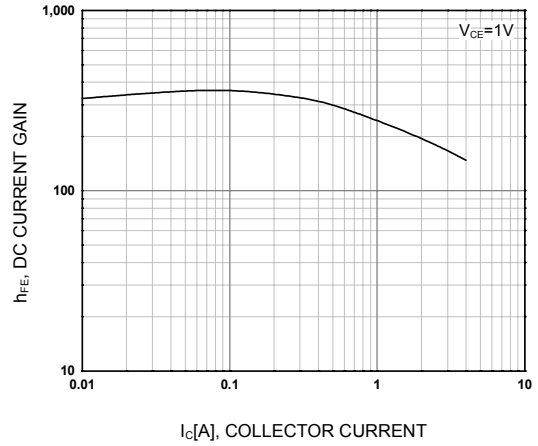
Device Marking	Device	Package	Reel Size	Tape Width	Quantity
2982	KSC2982	SOT-89	13"	--	4,000

## Typical Performance Characteristics

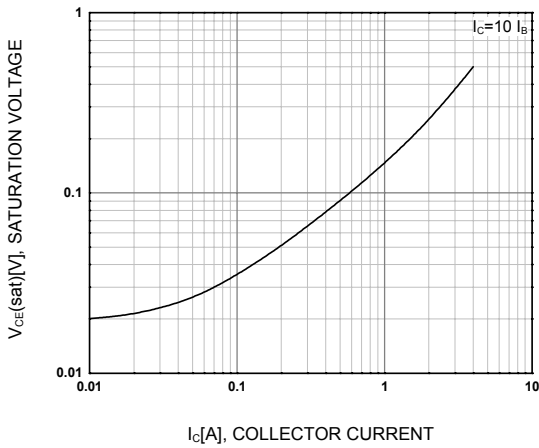
**Figure 1. Static Characteristic**



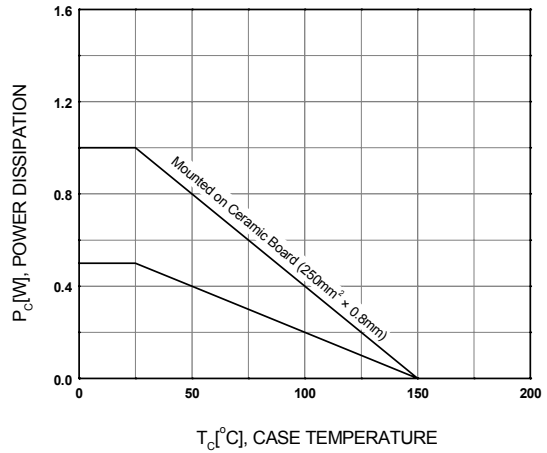
**Figure 2. DC Current Gain**



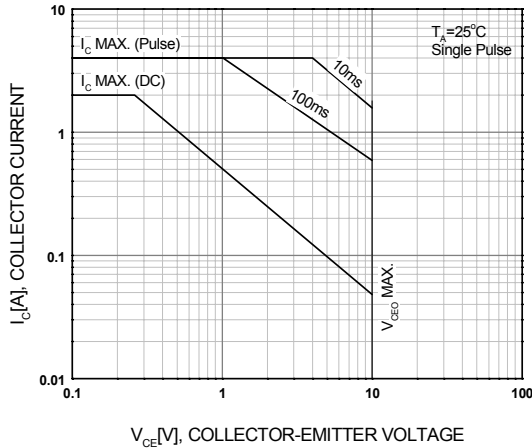
**Figure 3. DC Collector-Emitter Saturation Voltage**



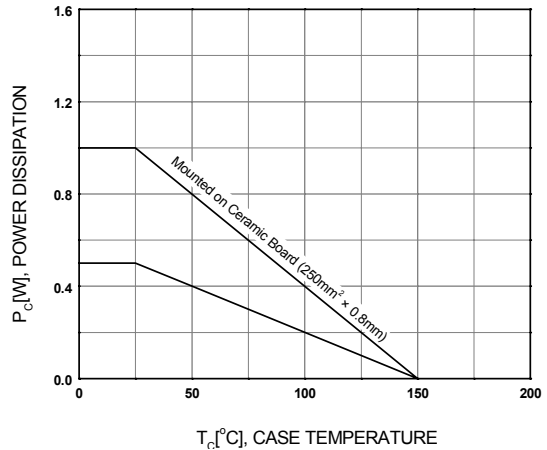
**Figure 4. Base-Emitter On Voltage**



**Figure 5. Safe Operating Area**

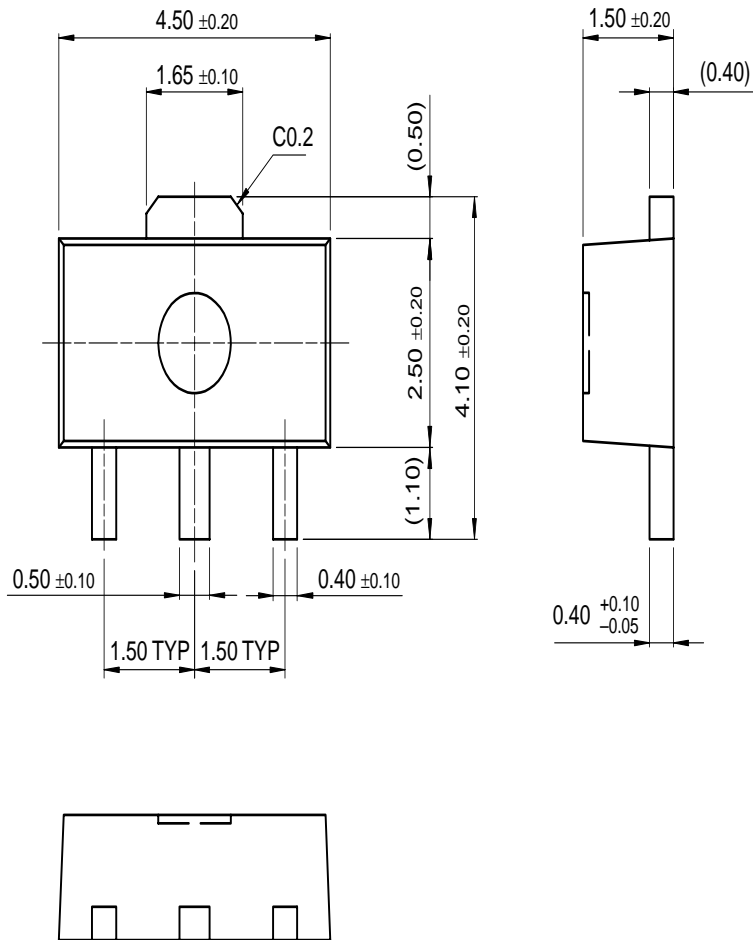


**Figure 6. Power Derating**



Mechanical Dimensions

SOT-89



Dimensions in Millimeters

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CROSSVOLT™	GTO™	MICROWIRE™	Quiet Series™	UHC™
DOME™	HiSeC™	MSX™	RapidConfigure™	UltraFET®
EcoSPARK™	I <sup>2</sup> C™	MSXPro™	RapidConnect™	UniFET™
E <sup>2</sup> CMOS™	i-Lo™	OCX™	μSerDes™	VCX™
EnSigna™	ImpliedDisconnect™	OCXPro™	SILENT SWITCHER®	Wire™
FACT™	IntelliMAX™	OPTOLOGIC®	SMART START™	
FACT Quiet Series™		OPTOPLANAR™	SPM™	
Across the board. Around the world.™		PACMAN™	Stealth™	
The Power Franchise®		POP™	SuperFET™	
Programmable Active Droop™		Power247™	SuperSOT™-3	
		PowerEdge™	SuperSOT™-6	

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