

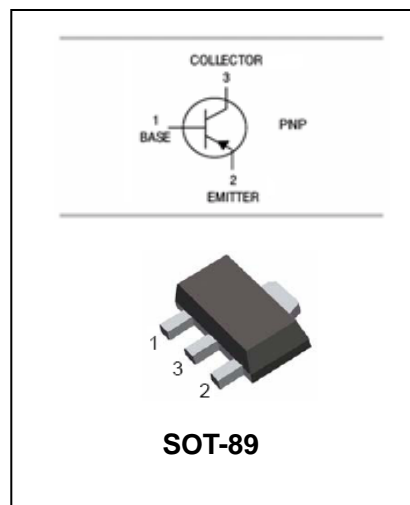
## PNP Silicon Epitaxial Planar Transistor

2SA2153

### FEATURES

- Low collector-emitter saturation voltage.
- High current capability.

HF



### APPLICATIONS

- Voltage Regulators.
- Relay Drivers.
- Lamp Drivers.
- Electrical Equipment.

### ORDERING INFORMATION

Type No.	Marking	Package Code
2SA2153	AZ	SOT-89

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V <sub>CB0</sub>	Collector-Base Voltage	-50	V
V <sub>CEO</sub>	Collector-Emitter Voltage	-50	V
V <sub>EBO</sub>	Emitter-Base Voltage	-6	V
I <sub>C</sub>	Collector Current -Continuous	-2	A
I <sub>CM</sub>	Peak Pulse Current	-4	A
I <sub>B</sub>	Base Current	-400	mA
P <sub>tot</sub>	Power Dissipation Surface mounted on ceramic substrate(450mm <sup>2</sup> x0.8mm)	1.3	W
R <sub>θJA</sub>	Thermal Resistance Junction to Ambient Air	97	°C/W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature Range	-55 to +150	°C

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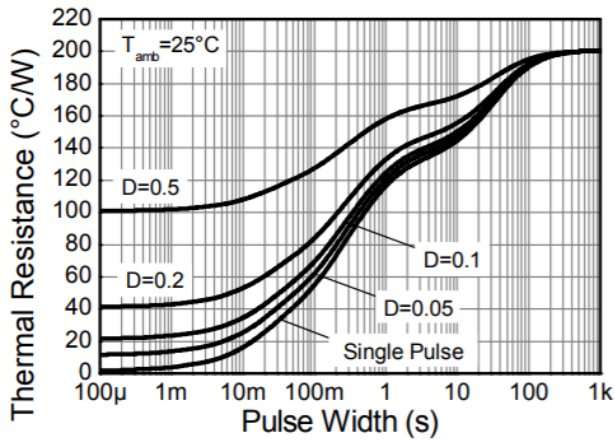
ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, I_E=0$	-50	-	-	V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1mA, I_B=0$	-50	-	-	V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	-6	-	-	V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-40V, I_E=0$	-	-	-1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-4V, I_C=0$	-	-	-1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE}=-2V, I_C=-100mA$	200	-	560	-
		$V_{CE}=-2V, I_C=-1.5A$	40	-	-	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-1A, I_B=-50mA$	-	-0.15	-0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-1A, I_B=-50mA$	-	-0.9	-1.2	V
Transition frequency	$f_T$	$V_{CE}=-10V, I_C=-50mA$ $f=100MHz$	150	-	-	MHz
Collector output capacitance	$C_{obo}$	$V_{CB}=-10V, f=1MHz$	-	-	25	pF
Turn-On Time	$t_{(on)}$	$V_{CC}=-15V, I_C=-0.75A$ $I_{B1}=I_{B2}=-15mA$	-	40	-	ns
Turn-Off Time	$t_{(off)}$		-	435	-	

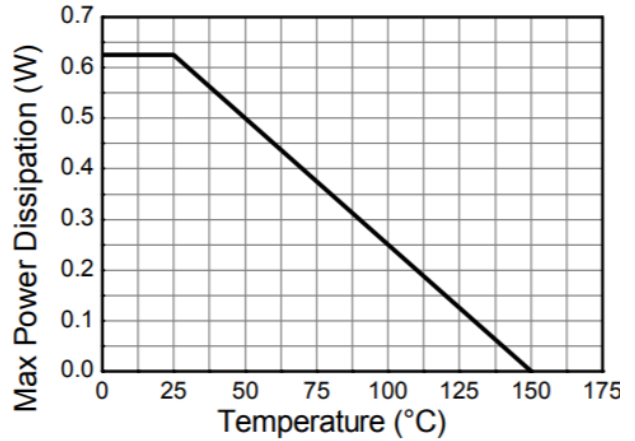
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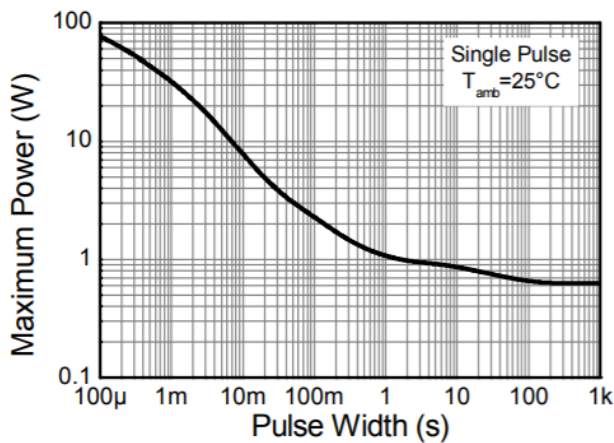
TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified



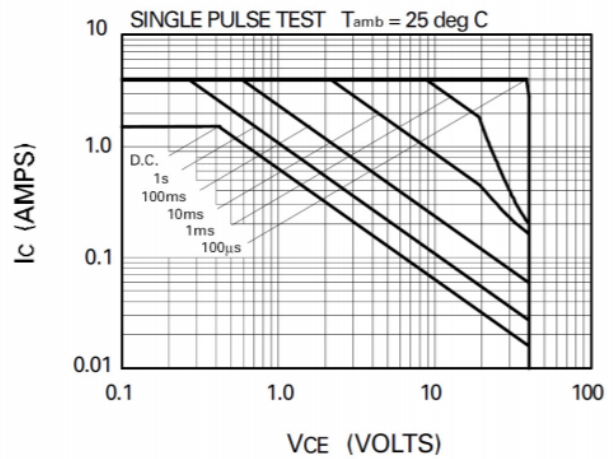
Transient Thermal Impedance



Derating Curve



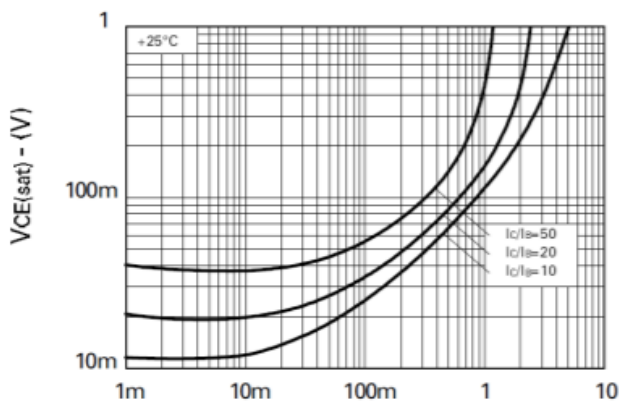
Pulse Power Dissipation



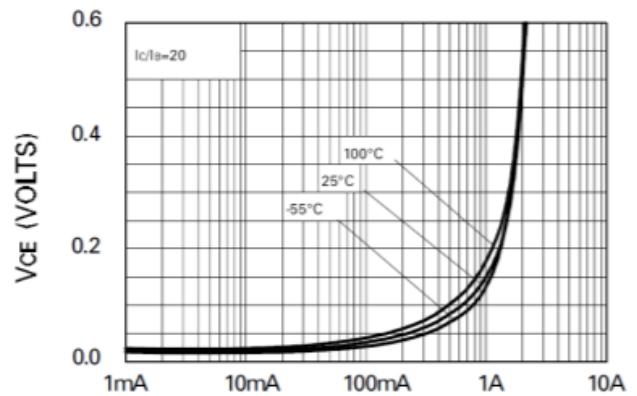
Safe Operating Area

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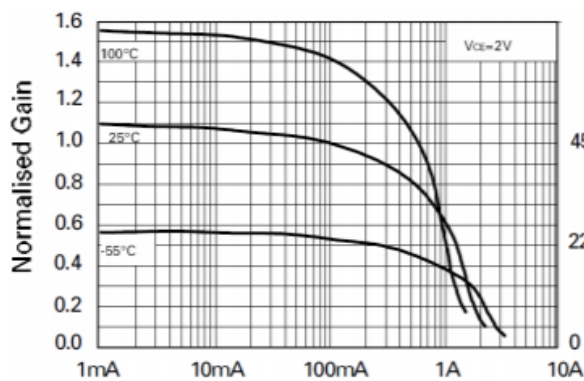
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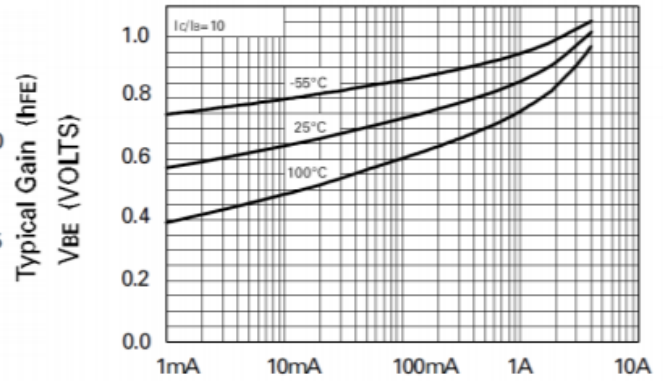
IC - Collector Current (A)  
**VCE(SAT) v IC**



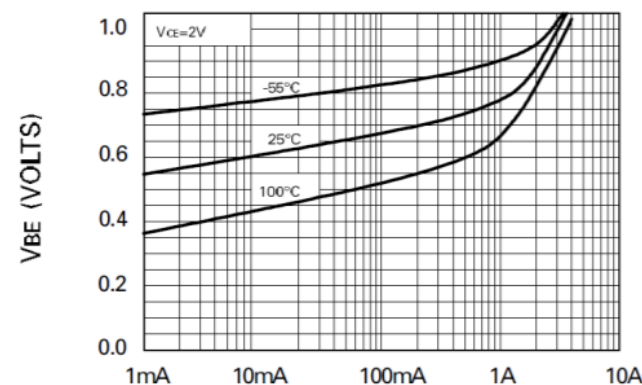
Collector Current  
**VCE(SAT) vs IC**



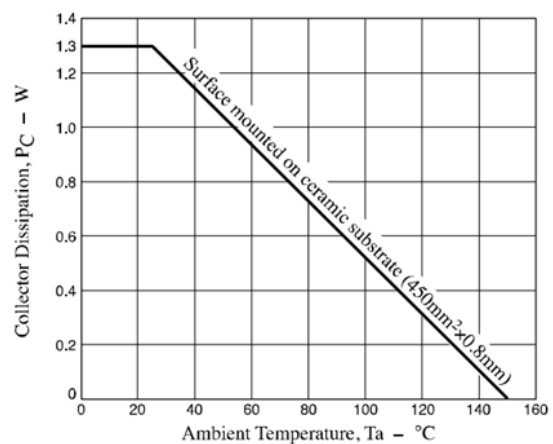
Collector Current  
**hFE vs IC**



Collector Current  
**VBE(SAT) vs IC**



Collector Current  
**VBE(ON) vs IC**



**Pc vs Ta**

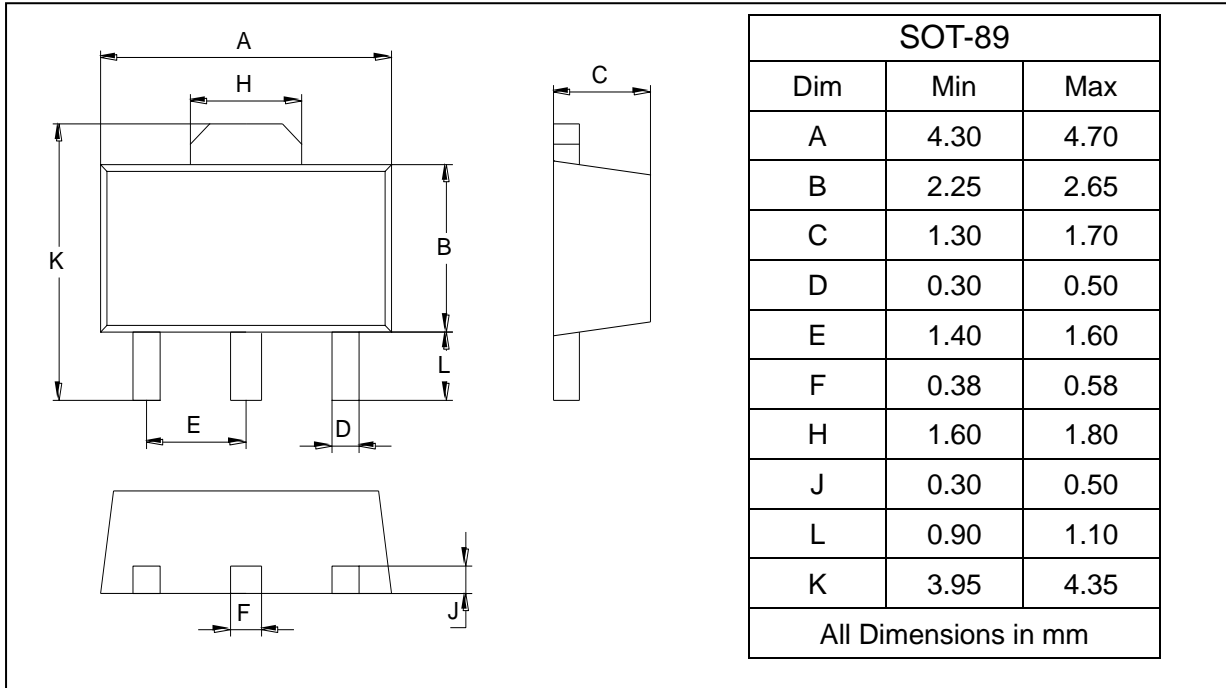
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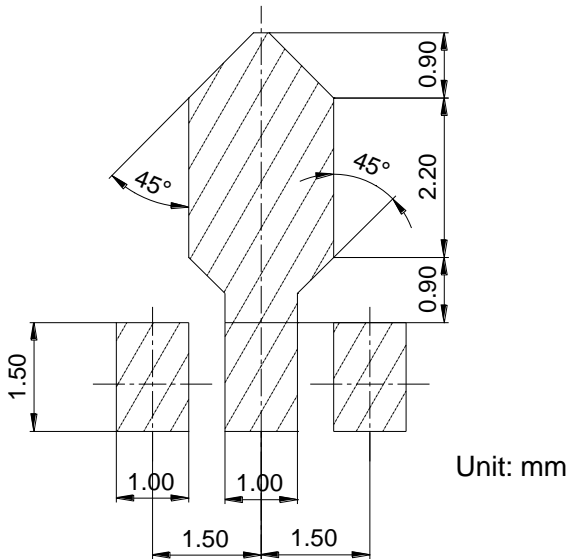
PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
2SA2153	SOT-89	1000 pcs / Tape & Reel