

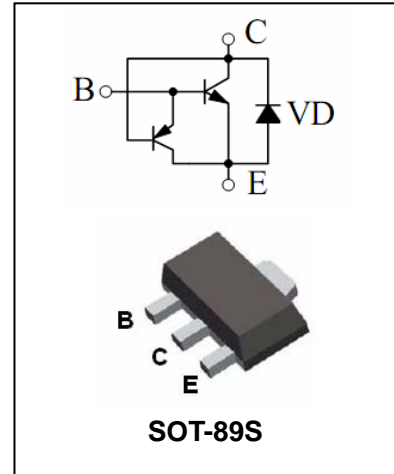


High Voltage Fast Switching NPN Power Transistor

3DD13003

FEATURES

- $P_C=1W$ (Mounted on ceramic substrate).
- High speed switching.
- Die size:1.34*1.34
- Small flat package.



APPLICATIONS

- Mainly used for compact electronic energy saving lamps, electronic ballast and mobile phone chargers power switch circuit

ORDERING INFORMATION

Type No.	Marking	Package Code
3DD13003	13003	SOT-89S

MAXIMUM RATING @ $T_a=25^{\circ}C$ unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	600	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current -Continuous	1.3	A
P_C	Collector Dissipation	1	W
T_J, T_{stg}	Junction and Storage Temperature	-55 to +150	$^{\circ}C$



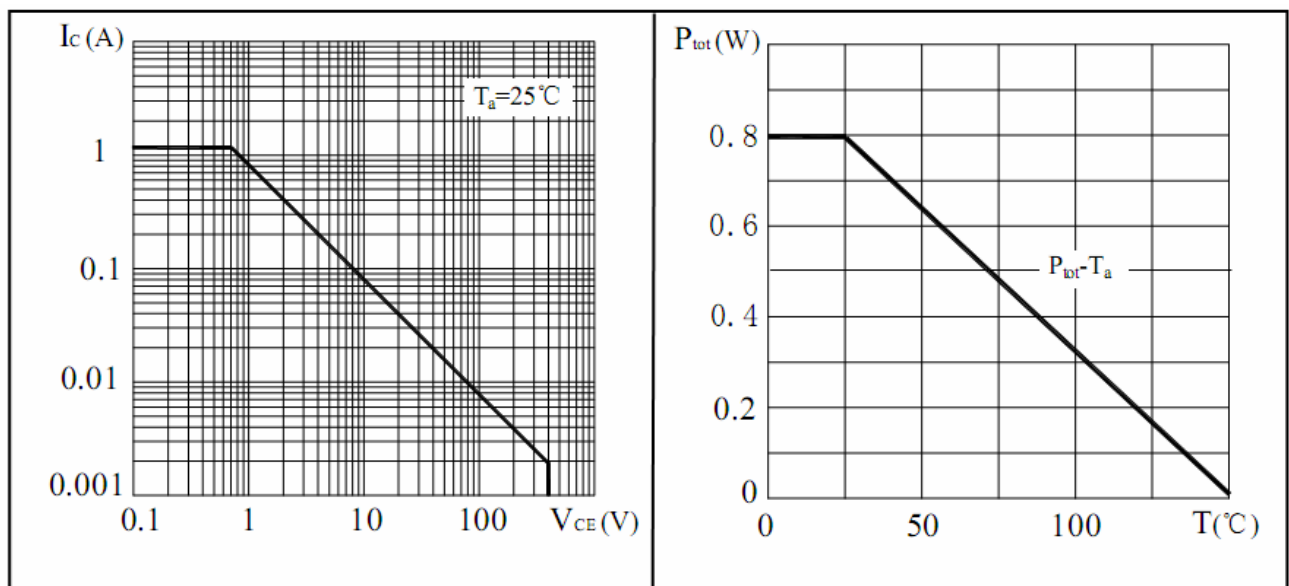
High Voltage Fast Switching NPN Power Transistor

3DD13003

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

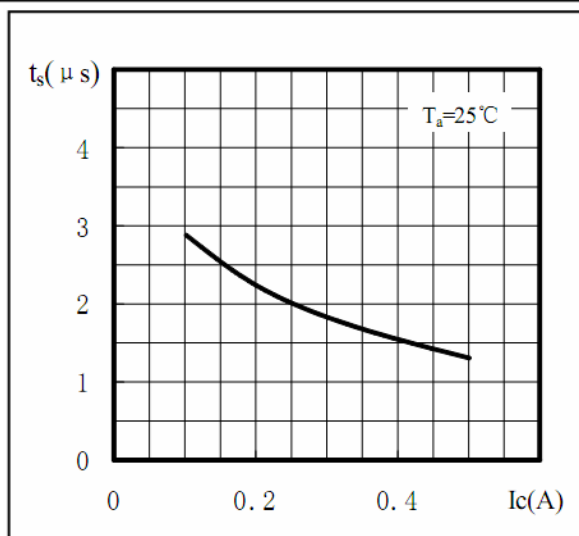
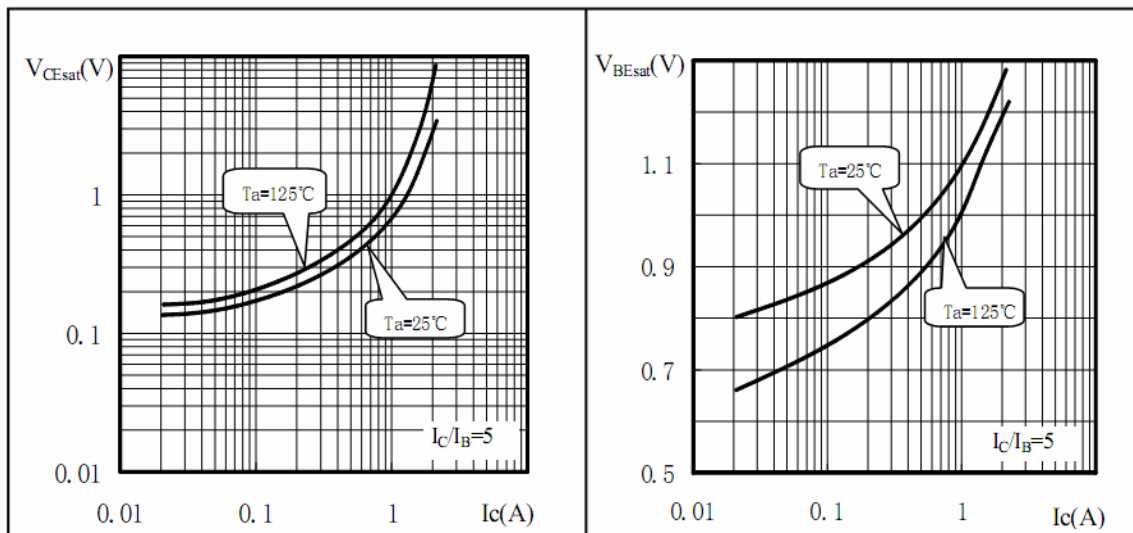
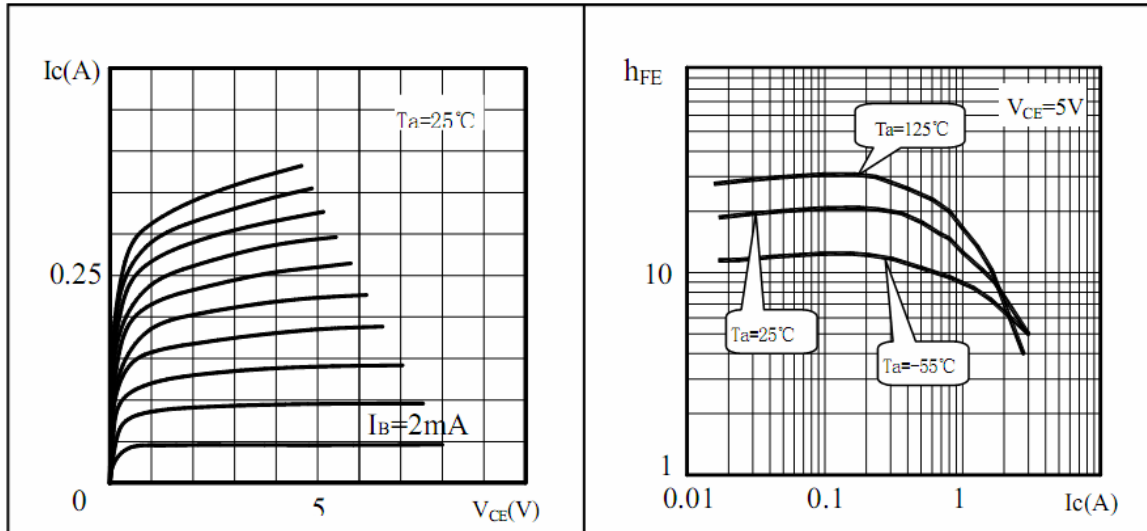
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=0.1mA, I_E=0$	600			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=0.1mA, I_C=0$	9			V
Collector cut-off current	I_{CBO}	$V_{CB}=600V, I_E=0$			100	μA
Collector cut-off current	I_{CEO}	$V_{CB}=400V, I_E=0$			100	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=9V, I_C=0$			100	μA
DC current gain	h_{FE}	$V_{CE}=5V, I_C=0.2A$	15		30	
Ratio	h_{FE1}/h_{FE2}	$h_{FE1}: V_{CE}=5V, I_C=5mA$ $h_{FE2}: V_{CE}=5V, I_C=0.2A$	0.75	0.9		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=0.5A, I_B=0.1A$		0.4	0.8	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=0.5A, I_B=0.1A$		1	1.5	V
storage time	t_s	UI9600, $I_C=0.1A$			5	μs
rise time	t_r				1	μs
fall time	t_f				1	μs
Transition frequency	f_T	$V_{CE}=10V, I_C=0.1A,$ $f=1MHz$	5			MHz

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified



High Voltage Fast Switching NPN Power Transistor

3DD13003



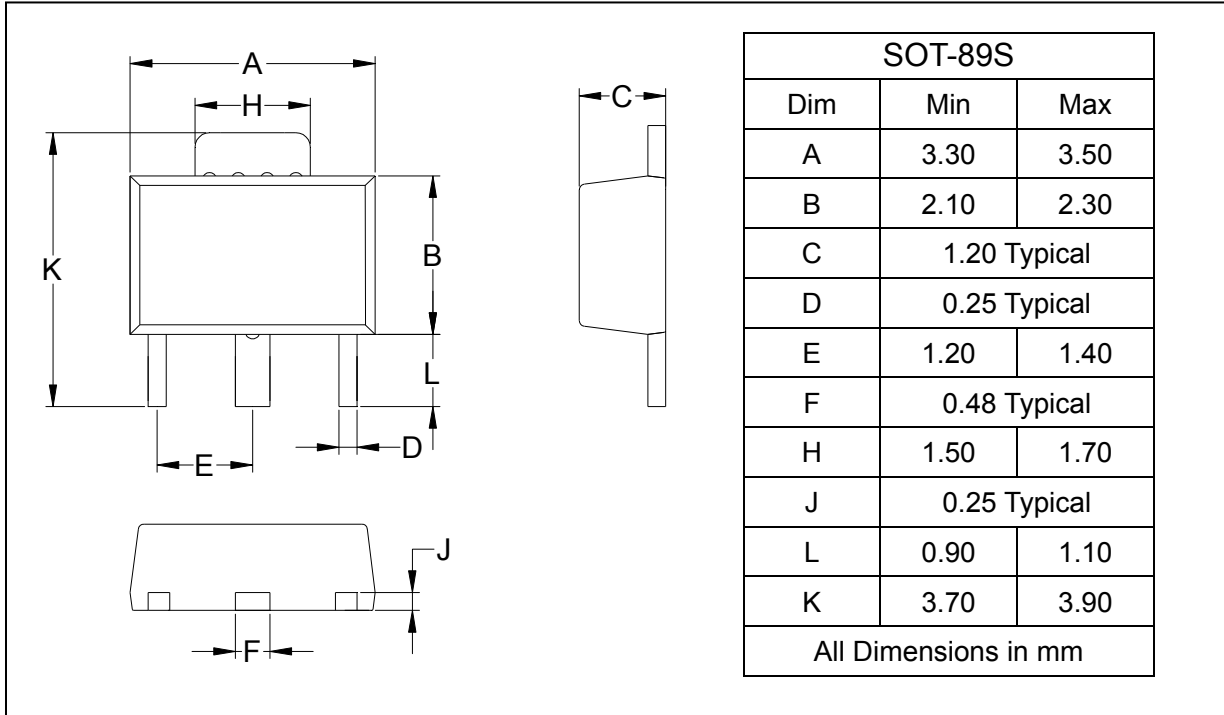
High Voltage Fast Switching NPN Power Transistor

3DD13003

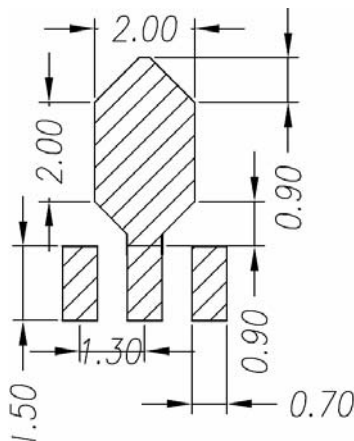
PACKAGE OUTLINE

Plastic surface mounted package

SOT-89S



SOLDERING FOOTPRINT



Unit:mm

PACKAGE INFORMATION

Device	Package	Shipping
3DD13003	SOT-89S	1000/Tape&Reel