

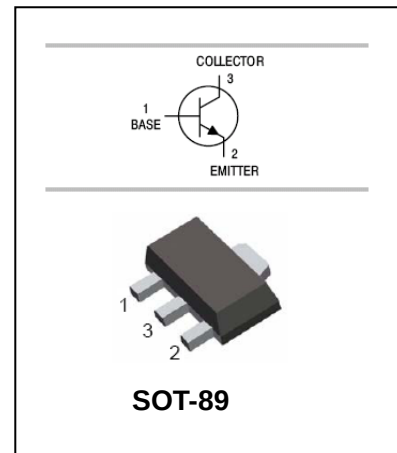
Medium Power Transistor

2SD2391

FEATURES

- Low saturation voltage , typically
 $V_{CE(sat)} = 0.13V$ at $I_C / I_B = 1A / 50mA$.
- Collector-emitter voltage =60V
- $P_C = 2W$ (on 40×40×0.7mm ceramic board).
- Complements the 2SB1561.
- MSL 3.

HF



ORDERING INFORMATION

Type No.	Marking	Package Code
2SD2391	DT	SOT-89

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	2 6	A(DC) A(Pulse)
P_C	Collector power dissipation	0.5 2	W
T_J	Junction Temperature	150	$^\circ C$
T_{STG}	Storage Temperature	-55 to +150	$^\circ C$

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=50\mu A, I_E=0$	60	-	-	V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	60	-	-	V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=50\mu A, I_C=0$	6	-	-	V
Collector cutoff current	I_{CBO}	$V_{CB}=50V$	-	-	0.1	μA
Emitter cutoff current	I_{EBO}	$V_{EB}=5V$	-	-	0.1	μA
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C/I_B=50mA/5mA$	-	0.13	0.35	V
DC current transfer ratio	h_{FE1}	$V_{CE}/I_C=-2V/-0.5A$	120	-	270	-
	h_{FE2}	$V_{CE}/I_C=-2V/-1.5A$	45	-	-	-
Transition frequency	f_T	$V_{CE}=2V, I_E=-0.5mA, f=100MHz$	-	210	-	MHz
Output Capacitance	C_{ob}	$V_{CB}=10V, f=1MHz, I_E=0$	-	21	-	pF

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

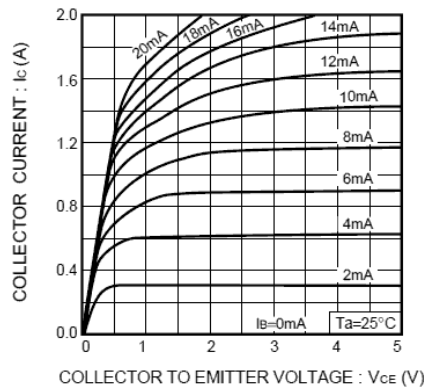


Fig.1 Grounded emitter output characteristics

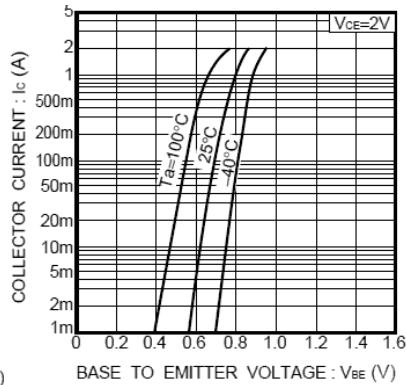


Fig.2 Grounded emitter propagation characteristics

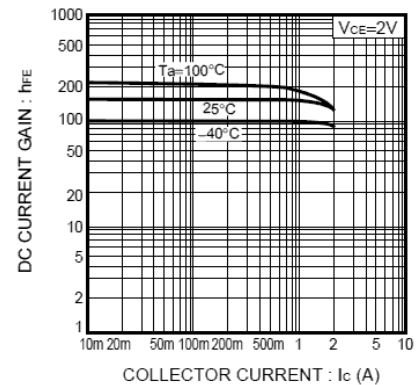


Fig.3 DC current gain vs. collector current (I)

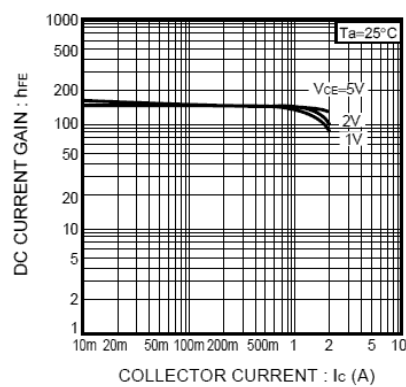


Fig.4 DC current gain vs. collector current (II)

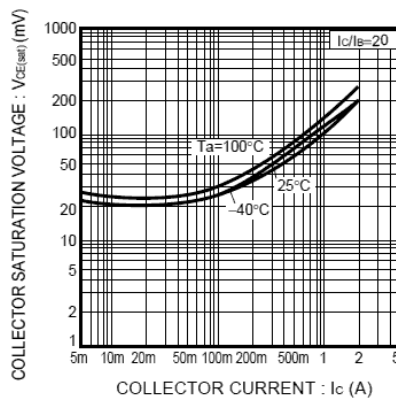


Fig.5 Collector-emitter saturation voltage vs. collector current (I)

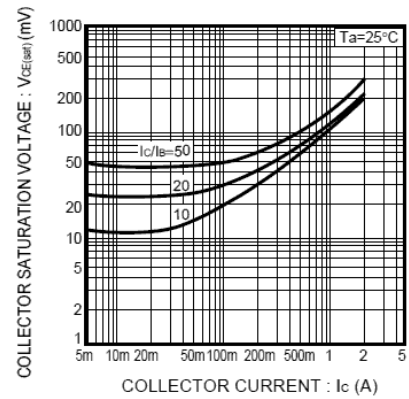


Fig.6 Collector-emitter saturation voltage vs. collector current (II)

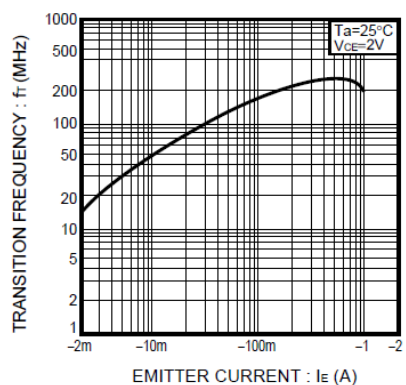


Fig.7 Gain bandwidth product vs. emitter current

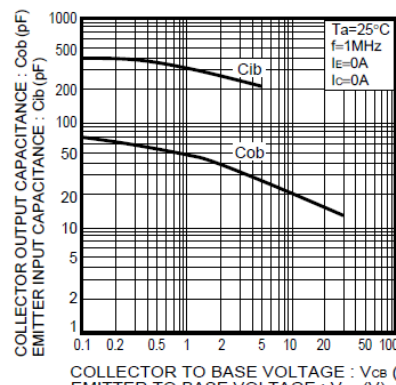


Fig.8 Output capacitance vs. voltage

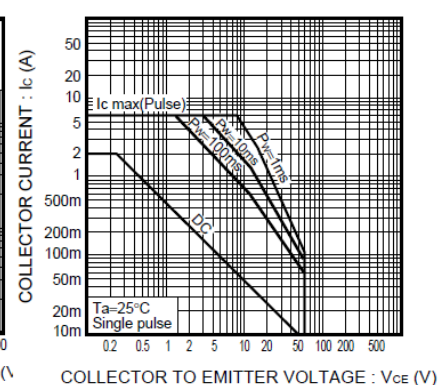


Fig.9 Safe operating area

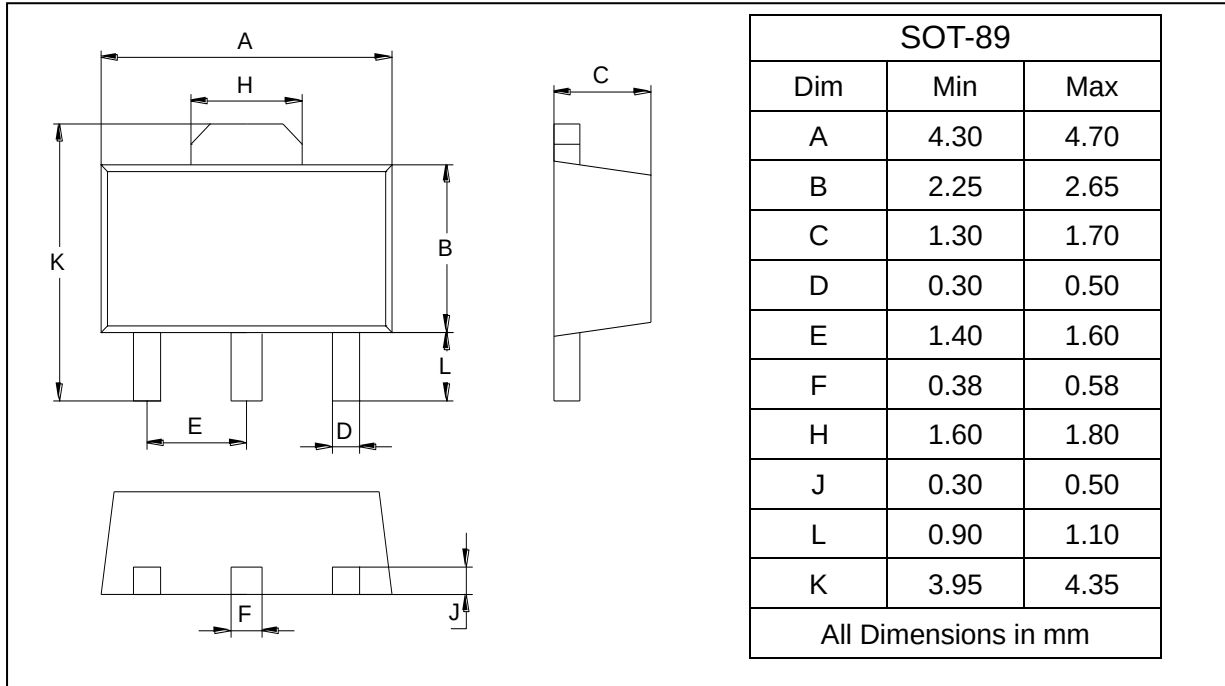
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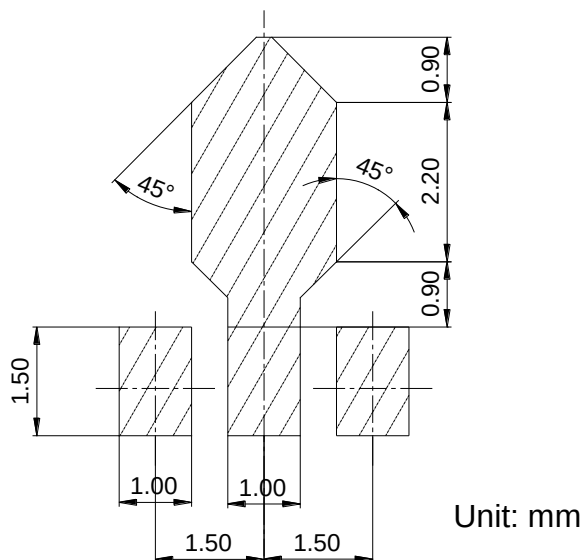
PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
2SD2391	SOT-89	1000 pcs / Tape & Reel