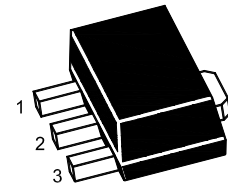


ST 2SD2150U

NPN Silicon Epitaxial Planar Transistor

Low frequency transistor



1.Base 2.Collector 3.Emitter
SOT-89 Plastic Package

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

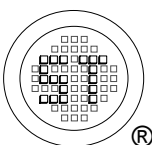
Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	40	V
Collector Emitter Voltage	V_{CEO}	20	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current - DC	I_C	3	A
Collector Current - Pulse ¹⁾	I_{CP}	5 ¹⁾	A
Total Power Dissipation	P_{tot}	0.5 2 ²⁾	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{Stg}	- 55 to + 150	$^\circ\text{C}$

¹⁾ Single pulse $P_w = 10\text{ ms}$.

²⁾ Mounted on a 40 X 40 X 0.7 mm ceramic substrate.

Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 2\text{ V}$, $I_C = 100\text{ mA}$ Current Gain Group R S	h_{FE}	180	-	390	-
	h_{FE}	270	-	560	-
Collector Base Breakdown Voltage at $I_C = 50\text{ }\mu\text{A}$	$V_{(BR)CBO}$	40	-	-	V
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	20	-	-	V
Emitter Base Breakdown Voltage at $I_E = 50\text{ }\mu\text{A}$	$V_{(BR)EBO}$	6	-	-	V
Collector Cutoff Current at $V_{CB} = 30\text{ V}$	I_{CBO}	-	-	100	nA
Emitter Cutoff Current at $V_{EB} = 5\text{ V}$	I_{EBO}	-	-	100	nA
Collector Emitter Saturation Voltage at $I_C = 2\text{ A}$, $I_B = 100\text{ mA}$	$V_{CE(sat)}$	-	-	0.5	V
Transition Frequency at $V_{CE} = 2\text{ V}$, $-I_E = 500\text{ mA}$, $f = 100\text{ MHz}$	f_T	-	290	-	MHz
Collector Output Capacitance at $V_{CE} = 10\text{ V}$, $I_E = 0\text{ A}$, $f = 1\text{ MHz}$	C_{ob}	-	25	-	pF



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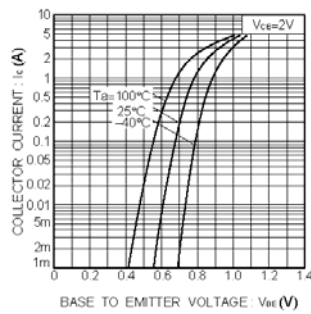


Fig.1 Grounded emitter propagation characteristics

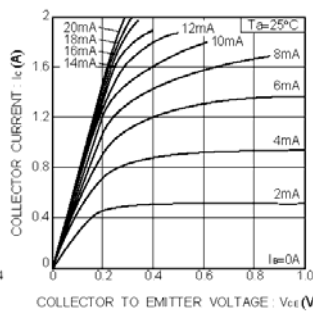


Fig.2 Grounded emitter output characteristics (I)

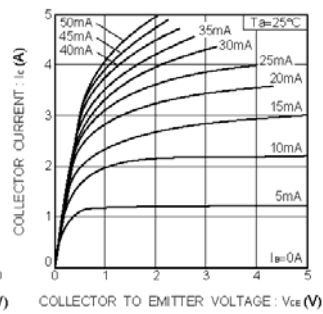


Fig.3 Grounded emitter output characteristics (II)

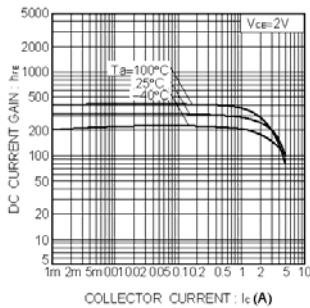


Fig.4 DC current gain vs. collector current

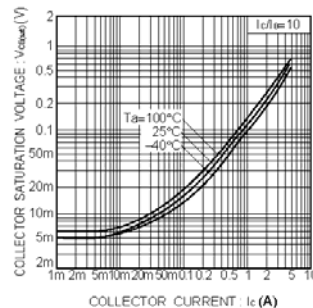


Fig.5 Collector-emitter saturation voltage vs. collector current (I)

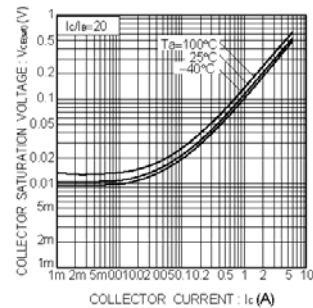


Fig.6 Collector-emitter saturation voltage vs. collector current (II)

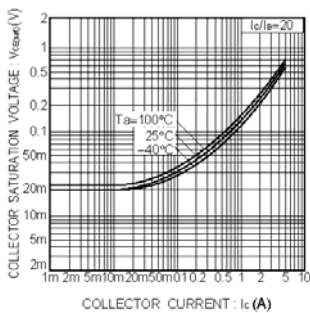


Fig.7 Collector-emitter saturation voltage vs. collector current (III)

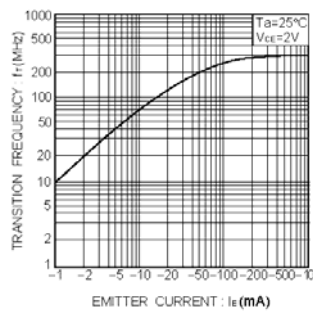


Fig.8 Gain bandwidth product vs. emitter current

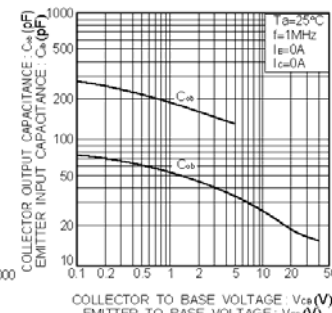
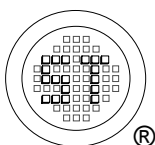
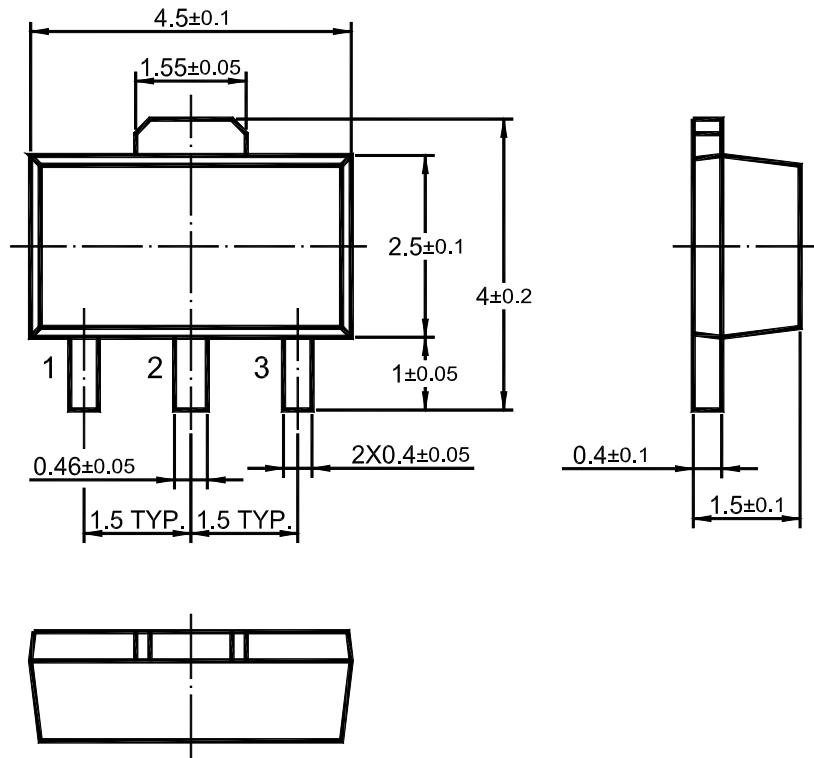


Fig.9 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

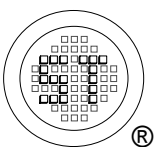


ST 2SD2150U

SOT-89 PACKAGE OUTLINE



Dimensions in mm



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