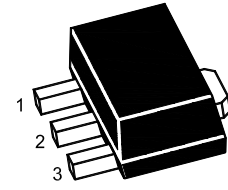


2SD2150U

NPN Silicon Epitaxial Planar Transistor

Low frequency transistor



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

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

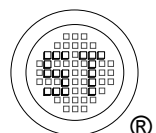
Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	40	V
Collector Emitter Voltage	V_{CEO}	20	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current - DC Collector Current - Pulse ¹⁾	I_{C} I_{CP}	3 5 ¹⁾	A
Total Power Dissipation	P_{tot}	0.5 2 ²⁾	W
Junction Temperature	T_{J}	150	$^\circ\text{C}$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

¹⁾ Single pulse $P_{\text{W}} = 10$ ms.

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

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

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



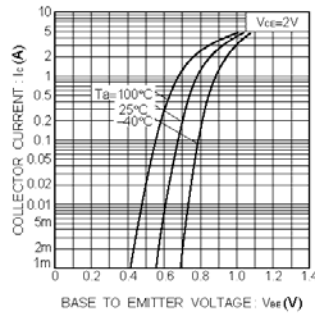


Fig.1 Grounded emitter propagation characteristics

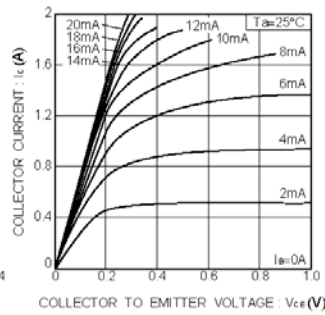


Fig.2 Grounded emitter output characteristics (I)

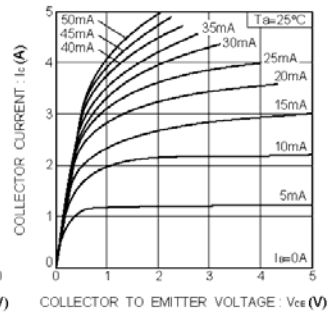


Fig.3 Grounded emitter output characteristics (II)

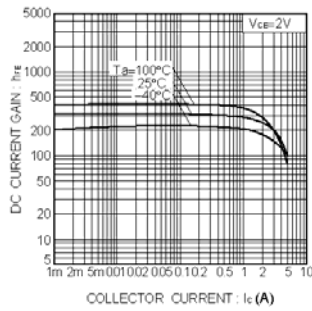


Fig.4 DC current gain vs. collector current

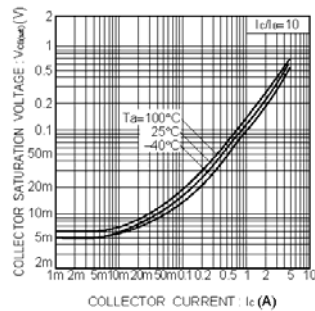


Fig.5 Collector-emitter saturation voltage vs. collector current (I)

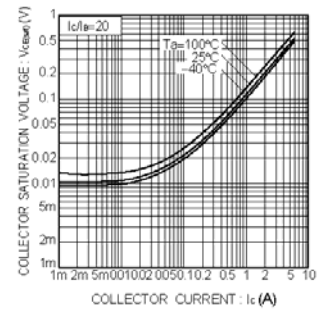


Fig.6 Collector-emitter saturation voltage vs. collector current (II)

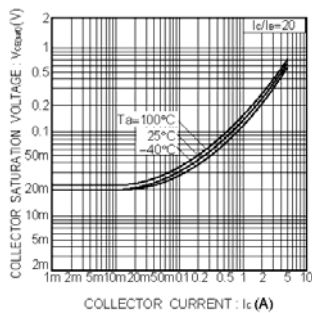


Fig.7 Collector-emitter saturation voltage vs. collector current (III)

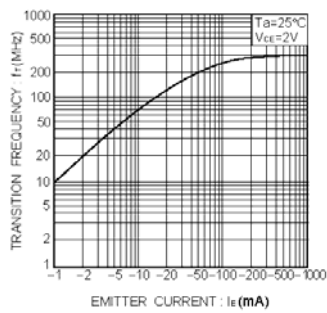


Fig.8 Gain bandwidth product vs. emitter current

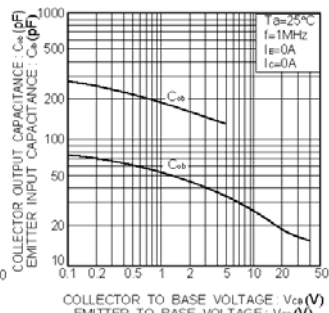
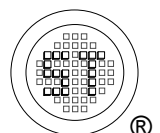
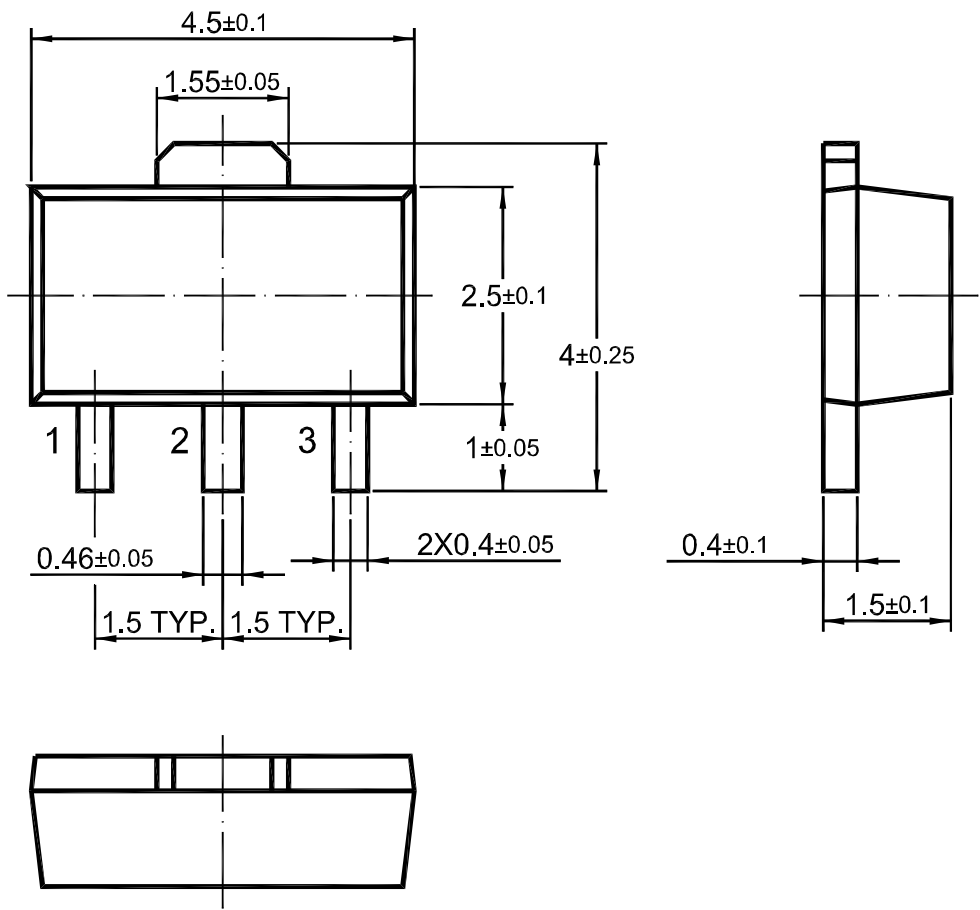


Fig.9 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage



2SD2150U

SOT-89 PACKAGE OUTLINE



Dimensions in mm

