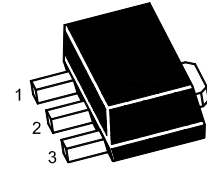


2SD1766U

NPN Silicon Epitaxial Planar Transistor

Medium power amplifier



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}	32	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_{C}	2	A
Peak Collector Current (Single pulse, $P_w = 20 \text{ ms}$)	I_{CP}	2.5	A
Collector Power Dissipation	P_{C}	0.5 2 ¹⁾	W
Junction Temperature	T_{j}	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

¹⁾ When mounted on a 40 x 40 x 0.7 mm ceramic board.

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{\text{CE}} = 3 \text{ V}$, $I_{\text{C}} = 500 \text{ mA}$ Current Gain Group P Q R	h_{FE}	82	-	180	-
	h_{FE}	120	-	270	-
	h_{FE}	180	-	390	-
Collector Base Cutoff Current at $V_{\text{CB}} = 20 \text{ V}$	I_{CBO}	-	-	1	μA
Emitter Base Cutoff Current at $V_{\text{EB}} = 4 \text{ V}$	I_{EBO}	-	-	1	μA
Collector Base Breakdown Voltage at $I_{\text{C}} = 50 \mu\text{A}$	$V_{(\text{BR})\text{CBO}}$	40	-	-	V
Collector Emitter Breakdown Voltage at $I_{\text{C}} = 1 \text{ mA}$	$V_{(\text{BR})\text{CEO}}$	32	-	-	V
Emitter Base Breakdown Voltage at $I_{\text{E}} = 50 \mu\text{A}$	$V_{(\text{BR})\text{EBO}}$	5	-	-	V
Collector Emitter Saturation Voltage at $I_{\text{C}} = 2 \text{ A}$, $I_{\text{B}} = 200 \text{ mA}$	$V_{\text{CE(sat)}}$	-	-	0.8	V
Transition Frequency at $V_{\text{CE}} = 5 \text{ V}$, $-I_{\text{E}} = 500 \text{ mA}$, $f = 100 \text{ MHz}$	f_{T}	-	100	-	MHz
Collector Base Capacitance at $V_{\text{CB}} = 10 \text{ V}$, $f = 1 \text{ MHz}$	C_{ob}	-	30	-	pF

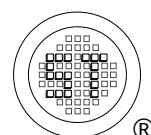


Fig. 1 $P_C - T_a$

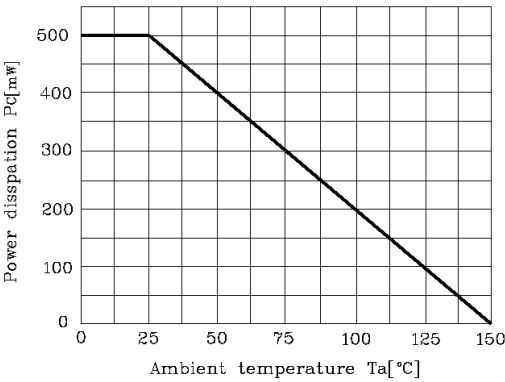


Fig. 2 $I_C - V_{BE}$

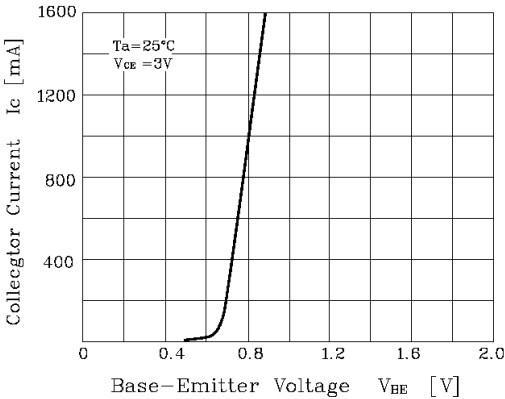


Fig. 3 $I_C - V_{CE}$

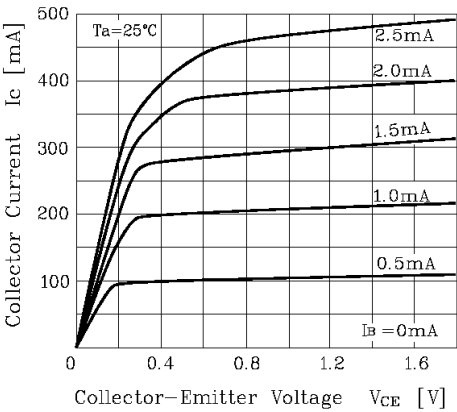


Fig. 4 $V_{CE(sat)} - I_C$

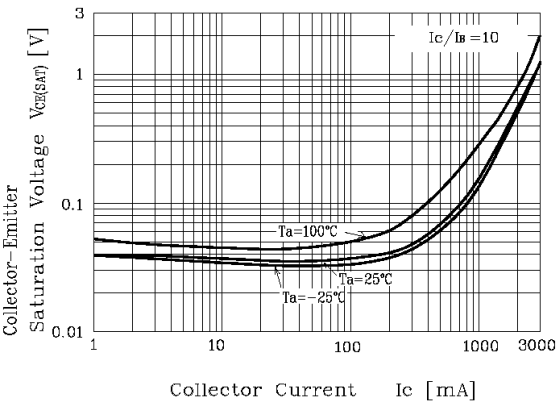
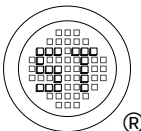
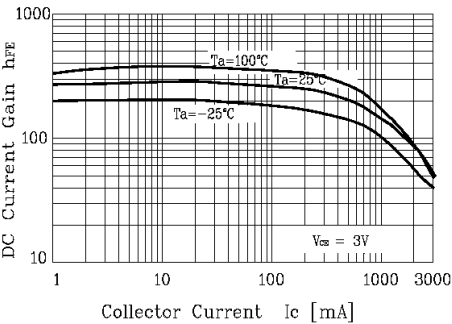
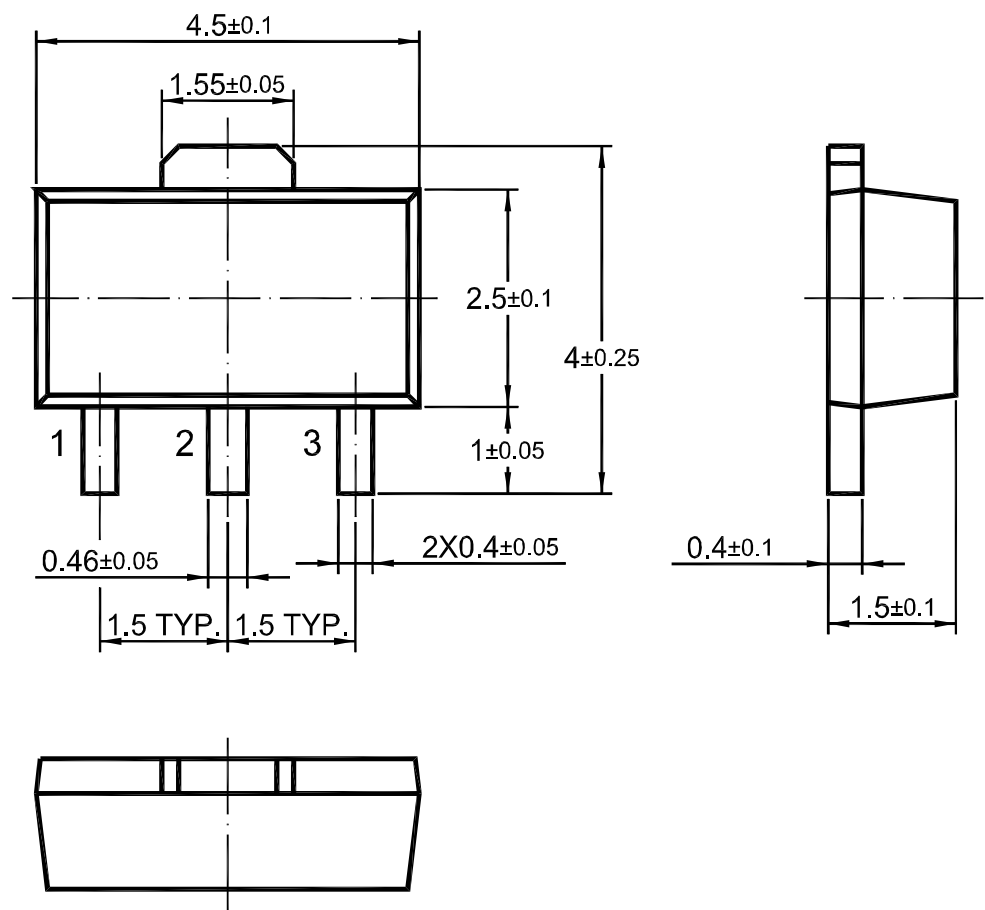


Fig. 5 $h_{FE} - I_C$



2SD1766U

SOT-89 PACKAGE OUTLINE



Dimensions in mm

