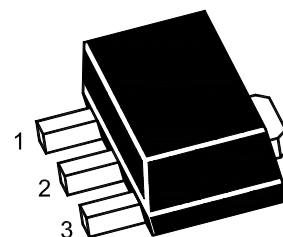




2SD1760U Silicon Epitaxial Planar Transistor

Power Transistor

Marking : 1760



1.Base 2.Collector 3.Emitter

SOT-89-3L

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	60	V
Collector Emitter Voltage	V_{CEO}	45	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current - DC	I_C	3	A
Collector Current - Pulse ¹⁾	I_{CP}	4.5	A
Collector Power Dissipation	P_C	1	W
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{Stg}	- 55 to + 150	$^{\circ}\text{C}$

¹⁾ Single pulse, $P_W = 100\text{ ms}$.

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 3\text{ V}$, $I_C = 0.5\text{ A}$ Current Gain Group P Q R	h_{FE}	82	-	180	-
	h_{FE}	120	-	270	-
	h_{FE}	180	-	390	-
Collector Cutoff Current at $V_{CB} = 40\text{ V}$	I_{CBO}	-	-	1	μA
Emitter Cutoff Current at $V_{EB} = 4\text{ V}$	I_{EBO}	-	-	1	μA
Collector Base Breakdown Voltage at $I_C = 50\text{ }\mu\text{A}$	$V_{(BR)CBO}$	60	-	-	V
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	45	-	-	V
Emitter Base Breakdown Voltage at $I_E = 50\text{ }\mu\text{A}$	$V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $I_C = 2\text{ A}$, $I_B = 200\text{ mA}$	$V_{CE(sat)}$	-	-	1	V
Transition Frequency at $V_{CE} = 5\text{ V}$, $-I_E = 0.5\text{ A}$, $f = 30\text{ MHz}$	f_T	-	90	-	MHz
Output Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	40	-	pF

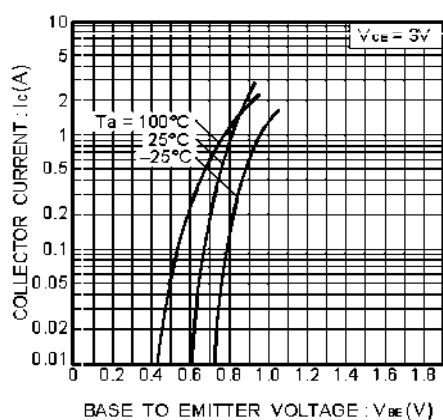


Fig.1 Grounded emitter propagation characteristics

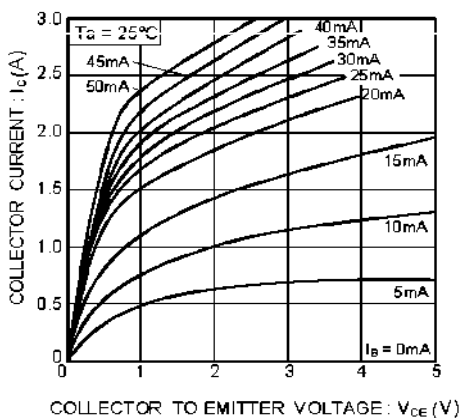


Fig.2 Grounded emitter output characteristics (I)

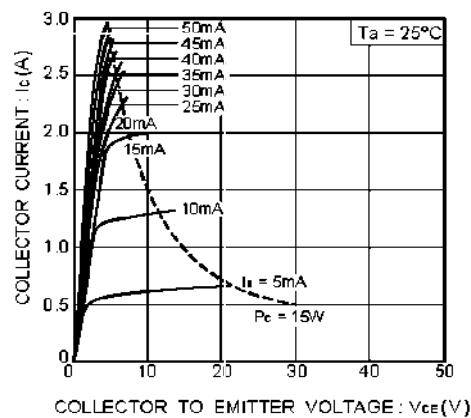


Fig.3 Grounded-emitter output characteristics(II)

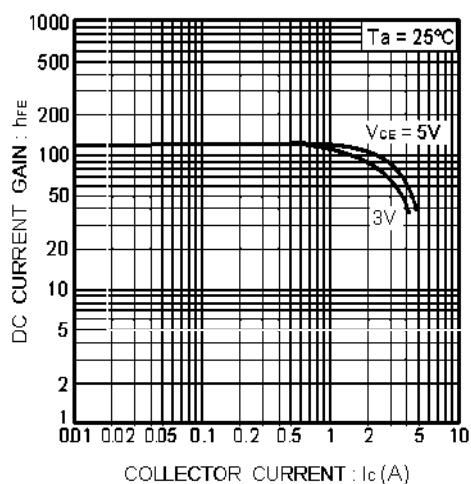


Fig.4 DC current gain vs. collector current(I)

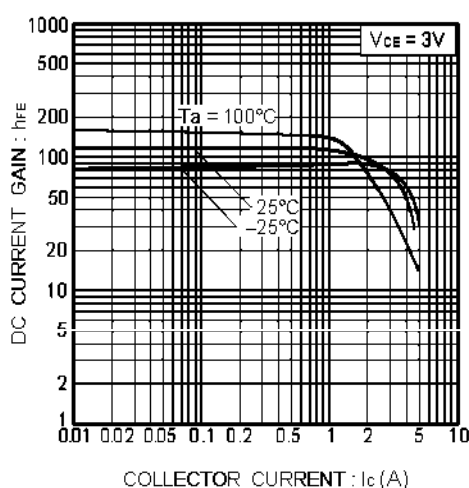


Fig.5 DC current gain vs. collector current(II)

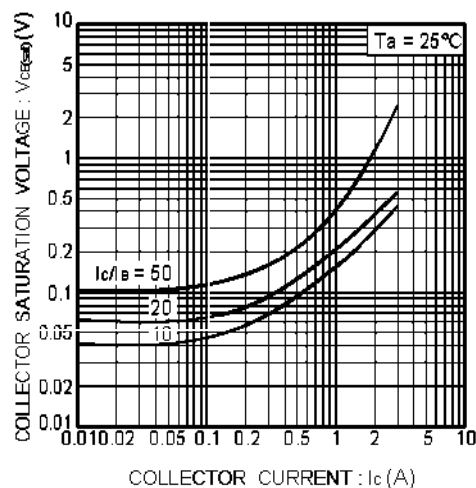


Fig.6 Collector-emitter saturation voltage vs. collector current

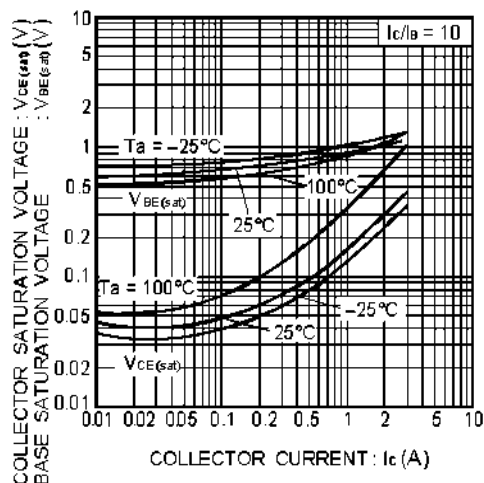


Fig.7 Collector-emitter saturation voltage vs. collector current
Base-emitter saturation voltage vs. collector current

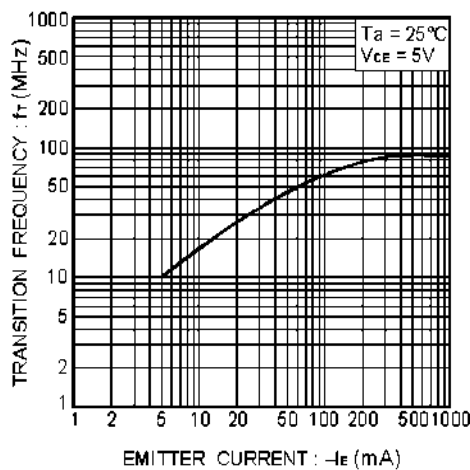


Fig.8 Gain bandwidth product vs. emitter current

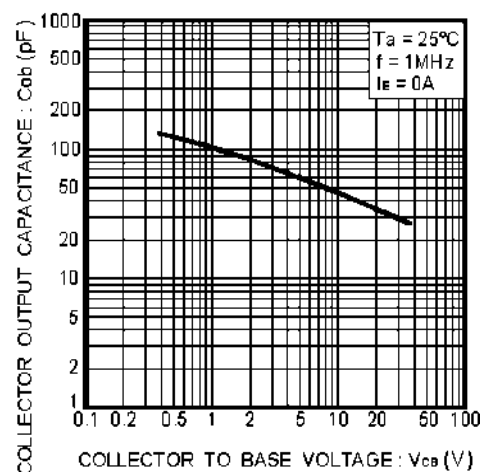
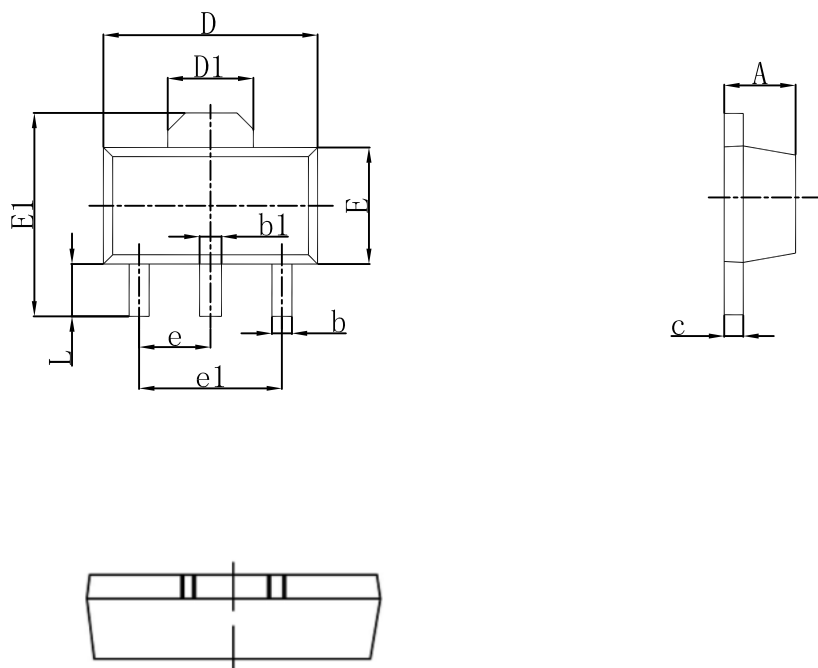


Fig.9 Collector output capacitance vs. collector-base voltage



SOT-89-3L Outlines Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047