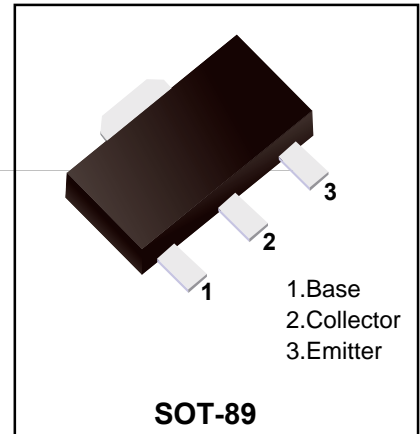


**NPN Transistors**



**Features**

- Collector Current Capability  $I_c=2A$
- Collector Emitter Voltage  $V_{CE0}=32V$
- High-speed switching.
- Complements to 2SB1188

**Absolute Maximum Rating (Ta=25°C)**

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	40	V
Collector - Emitter Voltage	$V_{CE0}$	32	
Emitter - Base Voltage	$V_{EB0}$	5	
Collector Current - Continuous	$I_c$	2	A
Collector Power Dissipation	$P_C$	0.5	W
Junction Temperature	$T_J$	150	°C
Storage Temperature range	$T_{stg}$	-55 to 150	

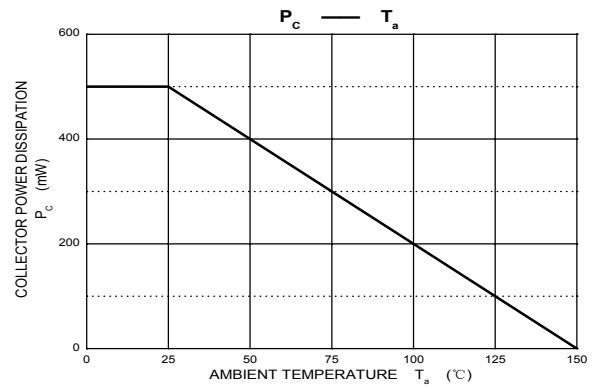
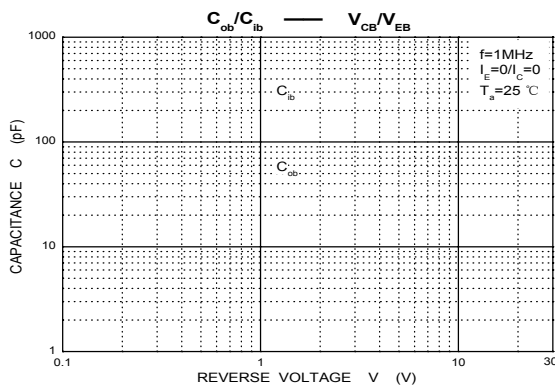
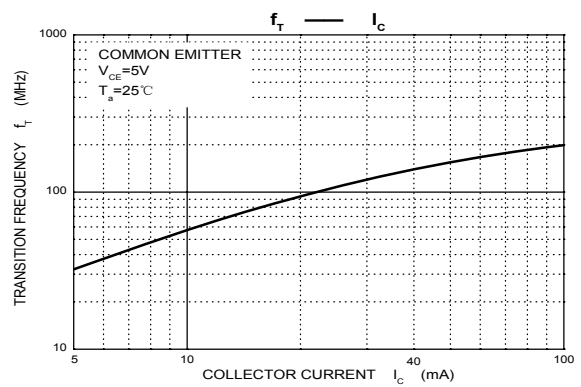
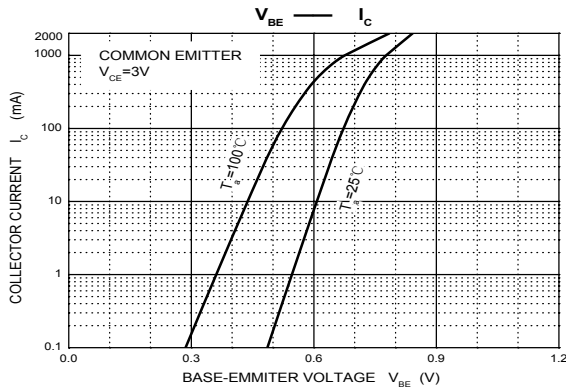
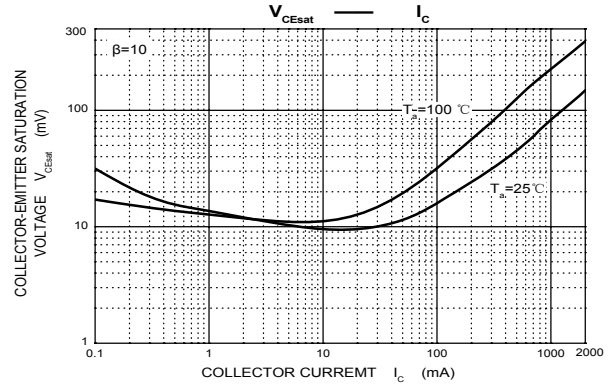
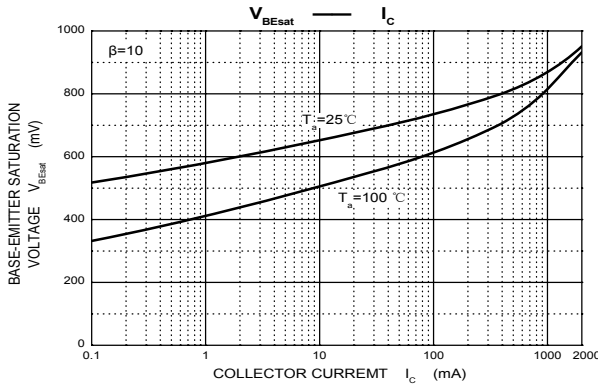
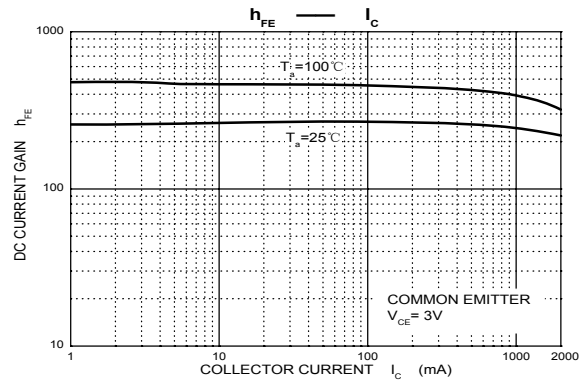
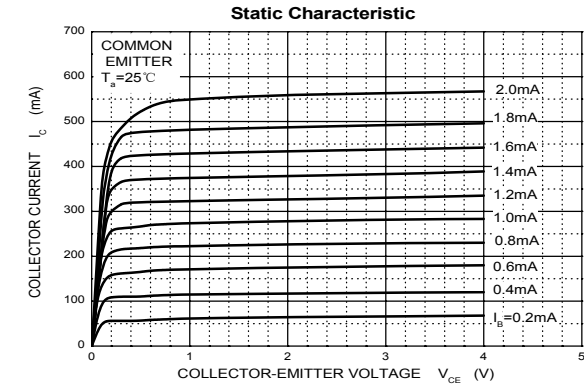
**Electrical Characteristics (Ta=25°C)**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CB0}$	$I_c = 100 \mu A, I_E = 0$	40			V
Collector- emitter breakdown voltage	$V_{CE0}$	$I_c = 1 mA, I_B = 0$	32			
Emitter - base breakdown voltage	$V_{EB0}$	$I_E = 100 \mu A, I_c = 0$	5			
Collector-base cut-off current	$I_{CB0}$	$V_{CB} = 20 V, I_E = 0$			1	uA
Emitter cut-off current	$I_{EB0}$	$V_{EB} = 4 V, I_c = 0$			1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = 2 A, I_B = 200 mA$			0.8	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_c = 2 A, I_B = 200 mA$			1.2	
DC current gain	$h_{FE}$	$V_{CE} = 3 V, I_c = 500 mA$	82		390	
Collector output capacitance	$C_{ob}$	$V_{CB} = 10 V, I_E = 0, f = 1 MHz$		30		pF
Transition frequency	$f_T$	$V_{CE} = 5 V, I_E = 50 mA, f = 100 MHz$		100		MHz

**$h_{FE}$  Classification**

Type	2SD1776-P	2SD1776-Q	2SD1776-R
Range	82-180	120-270	180-390
Marking	DBP	DBQ	DBR

**Typical Characteristics**



**Ordering information**

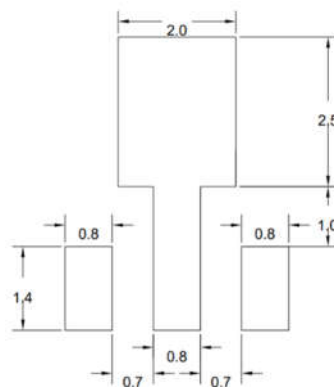
Package	Packing Description	Base Quantity	Packing Quantity
SOT-89	Tape/Reel, 7" reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton

**Package Dimensions**

**SOT-89**

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.40	1.60	0.055	0.063
b	0.32	0.52	0.013	0.020
b1	0.38	0.58	0.015	0.023
c	0.35	0.45	0.014	0.018
D	4.40	4.60	0.173	0.181
D1	1.45	1.65	0.057	0.065
D2	1.70	1.80	0.067	0.071
E	2.30	2.60	0.091	0.102
E1	3.95	4.25	0.156	0.167
E2	1.80	2.00	0.071	0.079
e	1.40	1.60	0.055	0.063
e1	2.80	3.20	0.110	0.126
L	0.90	1.20	0.035	0.047

**The recommended mounting pad size**



UNIT:MM

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