



Features

- Collector-Emitter Voltage: $V_{CE0} = 30V$
- Collector Power Dissipation: $P_c = 750mW$
- Collector Current -Continuous: $I_c = 5A$

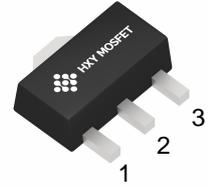
Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
2SD965	SOT-89	D965	1000

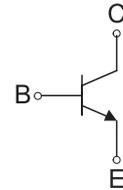
1. BASE

2. COLLECTOR

3. EMITTER



SOT-89



Maximum Ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CB0}	40	V
Collector - Emitter Voltage	V_{CE0}	30	
Emitter - Base Voltage	V_{EB0}	7	
Collector Current - Continuous	I_c	5	A
Collector Power Dissipation	P_c	750	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	167	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{stg}	-55 to 150	

Electrical Characteristics(Ta=25°C unless otherwise specified)

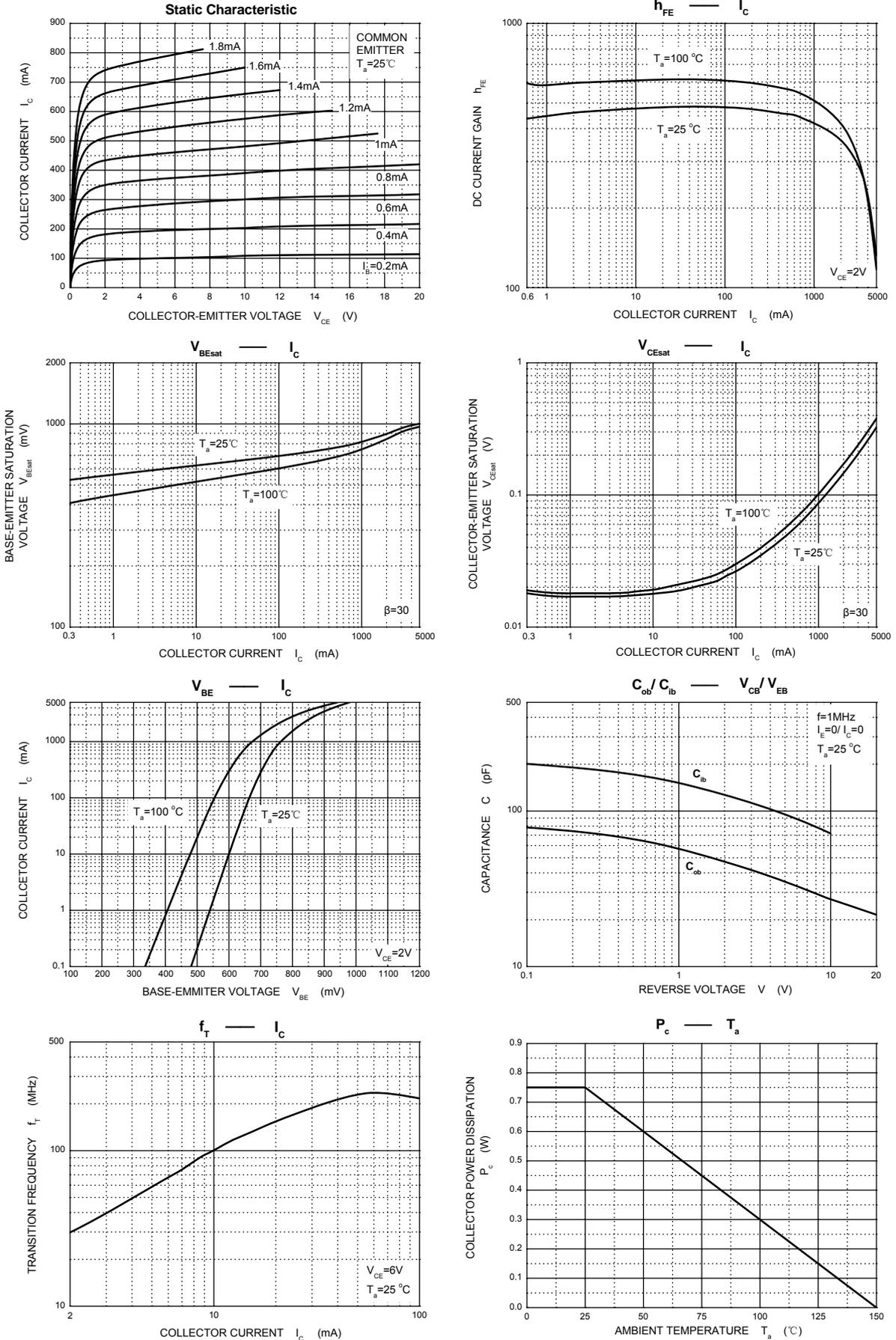
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CB0}	$I_c = 100 \mu A, I_E = 0$	40			V
Collector- emitter breakdown voltage	V_{CE0}	$I_c = 1 mA, I_B = 0$	30			
Emitter - base breakdown voltage	V_{EB0}	$I_E = 100 \mu A, I_C = 0$	7			
Collector-base cut-off current	I_{CB0}	$V_{CB} = 10 V, I_E = 0$			100	nA
Emitter cut-off current	I_{EB0}	$V_{EB} = 7 V, I_C = 0$			100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 3 A, I_B = 100 mA$			1	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 3 A, I_B = 100 mA$			1.2	
DC current gain	$h_{FE(1)}$	$V_{CE} = 2V, I_C = 1mA$		200		
	$h_{FE(2)}$	$V_{CE} = 2V, I_C = 500mA$	230		950	
	$h_{FE(3)}$	$V_{CE} = 2V, I_C = 2A$	150			
Collector output capacitance	C_{ob}	$V_{CB} = 20V, I_E = 0, f = 1MHz$			50	pF
Transition frequency	f_T	$V_{CE} = 6V, I_C = 50mA$		150		MHz

Classification Of h_{FE}

Type	2SD965A-Q	2SD965A-R	2SD965A-S
Range	230-380	340-600	560-800

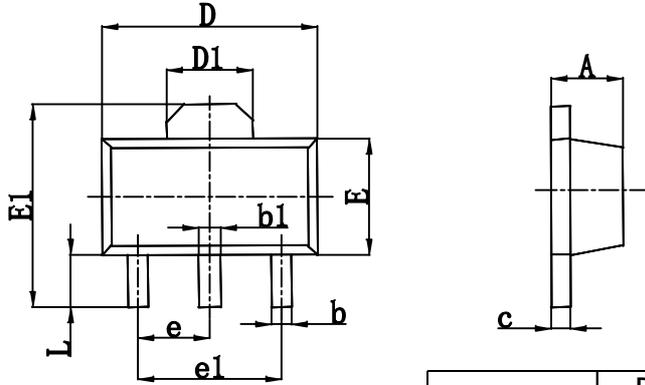


Typical Characteristics





SOT-89 Package Outline 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



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