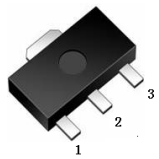
FEATURES

• Low VCE(sat), VCE(sat)=0.15V(typical).(IC/IB=500mA/50mA)

• Complements to 2SB1132

2SD1664 (NPN)



1. BASE
2. COLLECTO
3. EMITTER

SOT-89

Maximum Ratings (Ta=25 ℃ unless otherwise noted)

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 -Continuous	I_C	1	A
Collector Power dissipation	P_C	0.5	W
Junction Temperature	T_J	150	℃
Storage Temperature	Tstg	-55to +150	℃

ELECTRICAL CHARACTERISTICS (@ Ta=25 ℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V_{CBO}	I_C=50μA, I_E=0	40			V
Collector-emitter breakdown voltage	V_{CEO}	I_C=1mA, I_B=0	32			V
Emitter-base breakdown voltage	V_{EBO}	I_E=50μA, I_C =0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=20V, I_E=0			0.5	μA
Emitter cut-off current	I_{EBO}	V_{EB}=4V, I_C=0			0.5	μA
DC current gain	h_{FE}	V_{CE}=3V, I_C=100mA	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=0.5A, I_B=50mA			0.4	V
Transition frequency	f_T	V_{CE}=5V, I_C=50mA, f=100MHz		150		MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz		15		pF

CLASSIFICATION OF h_{FE}

Rank	P	Q	R
Range	82-180	120-270	180-390
Marking	DAP	DAQ	DAR

2SD1664 Typical Characteristics

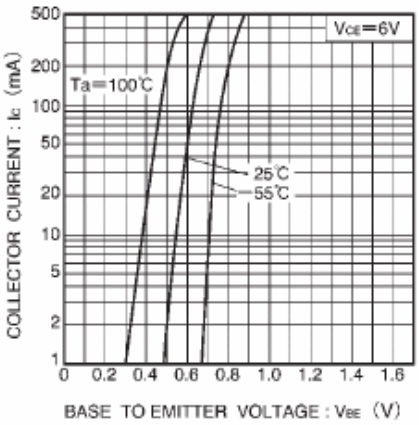


Fig.1 Grounded emitter propagation characteristics

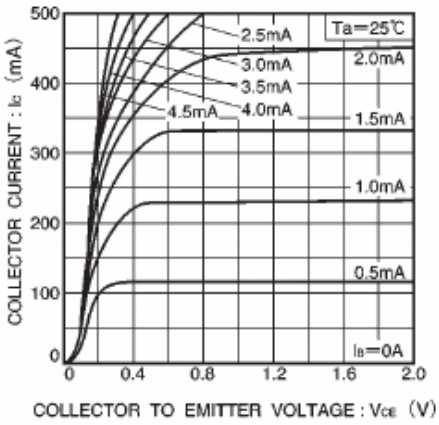


Fig.2 Grounded emitter output characteristics

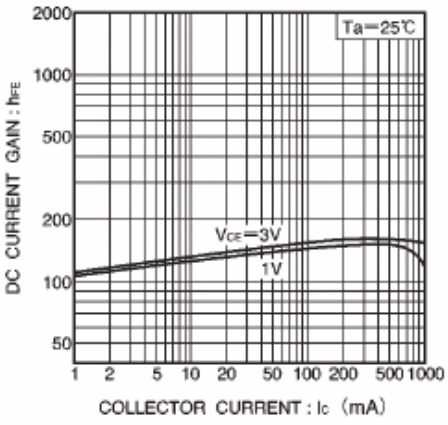


Fig.3 DC current gain vs. collector current (Ⅰ)

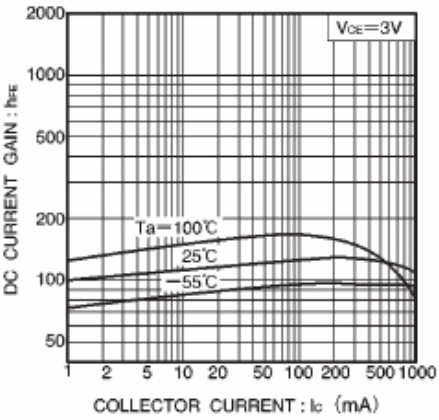


Fig.4 DC current gain vs. collector current (Ⅱ)

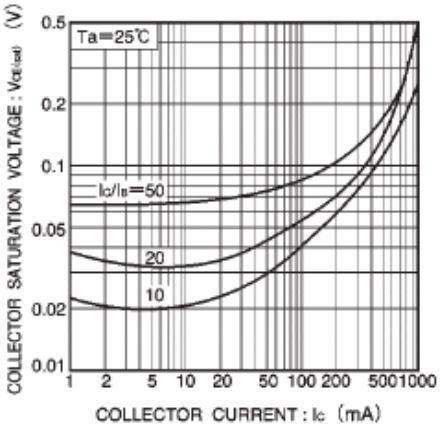


Fig.5 Collector-emitter saturation voltage vs. collector current (Ⅰ)

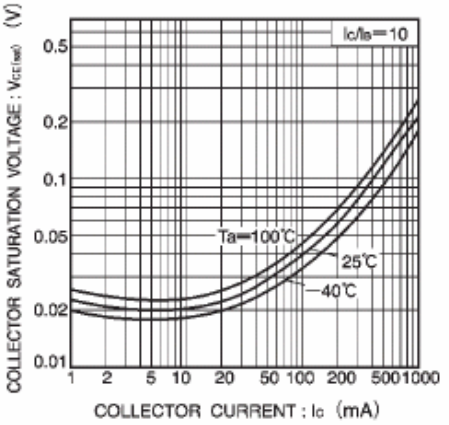


Fig.6 Collector-emitter saturation voltage vs. collector current (Ⅱ)

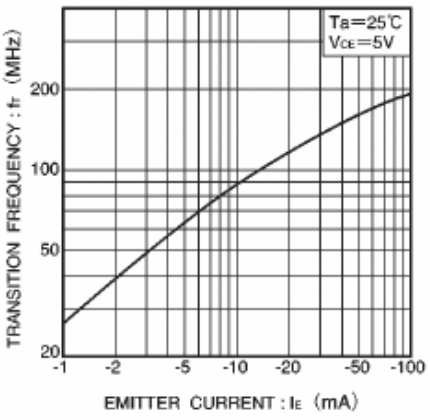


Fig.7 Gain bandwidth product vs. emitter current

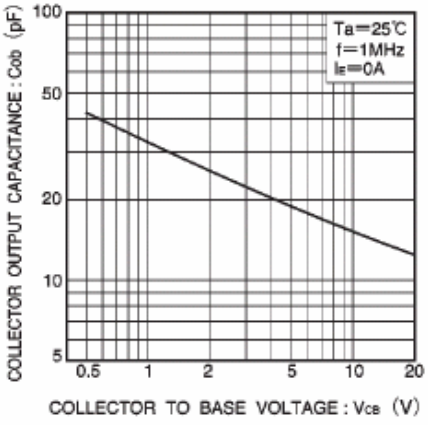


Fig.8 Collector output capacitance vs. collector-base voltage

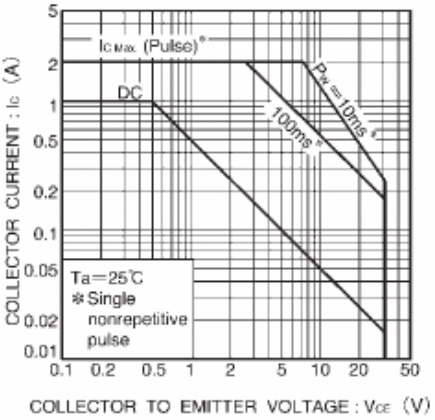


Fig.9 Safe operating area (2SD1664)