Elektronische Bauelemente

2SD1664

NPN Silicon
General Purpose Transistor

RoHS Compliant Product

Features

Power dissipation

P_{CM} : 0.5 W (Tamb= 25°C)

Collector current

I_{CM} : 1 A

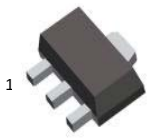
Collector-base voltage

$V_{(BR)CBO}$: 40 V

Operating & Storage junction Temperature

T_j, T_{stg} : -55°C~ +150°C

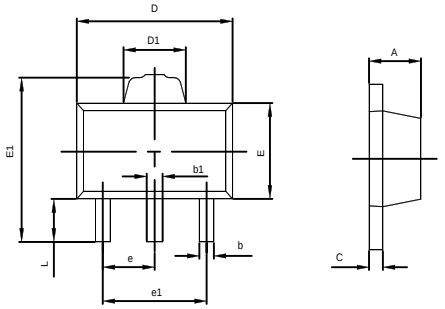
SOT-89



1.BASE

2.COLLECTOR

3.EMITTER



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	0.360	0.560	0.014	0.022
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.400	1.800	0.055	0.071
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500TYP		0.060TYP	
e1	2.900	3.100	0.114	0.122
L	0.900	1.100	0.035	0.043

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

Parameter	Symbol	Test Conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	Ic= 50 μ A, I_E=0	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	Ic= 1mA, I_B=0	32			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= 50 μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}= 20 V, I_E=0			0.5	μ A
Emitter cut-off current	I_{EBO}	V_{EB}= 4V, I_C=0			0.5	μ A
DC current gain	h_{FE}	V_{CE}= 3V, I_C= 0.1A	82		390	
Collector-emitter saturation voltage	V_{CE}(sat)	I_C= 500mA, I_B= 50mA			0.4	V
Transition frequency	f_T	V_{CE}= 5V , I_C= 50mA f=1MHz		150		MHz
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**

ELECTRICAL CHARACTERISTIC CURVES

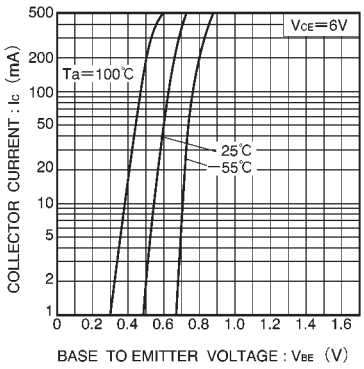


Fig.1 Grounded emitter propagation characteristics

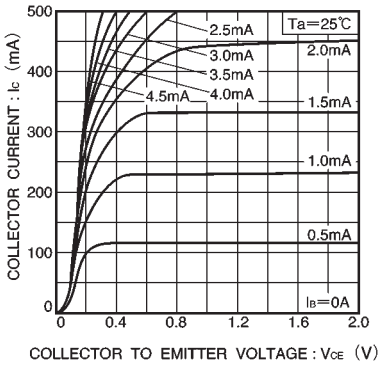


Fig.2 Grounded emitter output characteristics

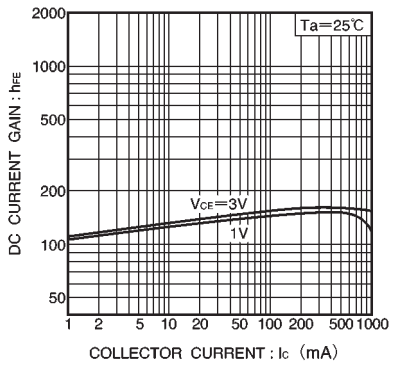


Fig.3 DC current gain vs. collector current (Ⅰ)

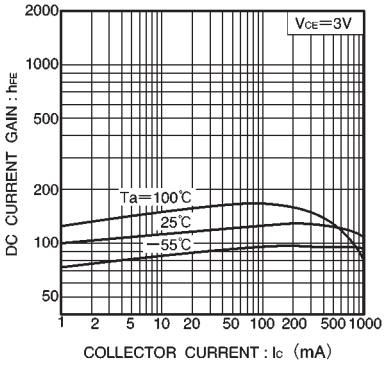


Fig.4 DC current gain vs. collector current (Ⅱ)

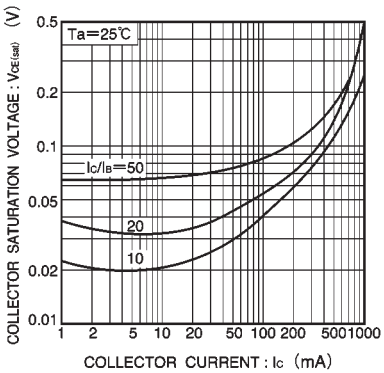


Fig.5 Collector-emitter saturation voltage vs. collector current (Ⅰ)

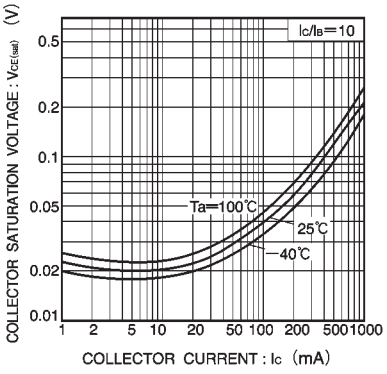


Fig.6 Collector-emitter saturation voltage vs. collector current (Ⅱ)

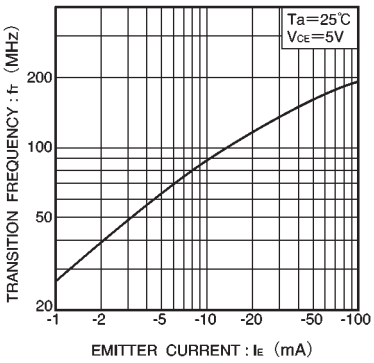


Fig.7 Gain bandwidth product vs. emitter current

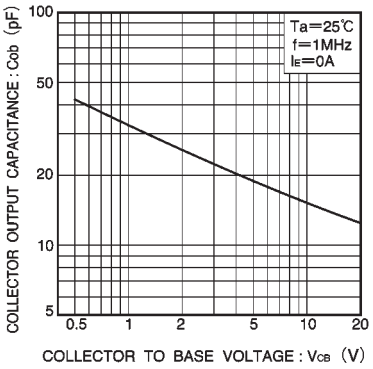


Fig.8 Collector output capacitance vs. collector-base voltage

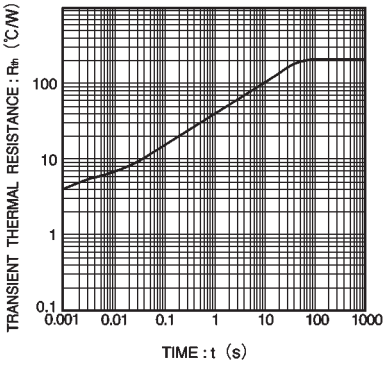


Fig.10 Transient thermal resistance (2SD1664)

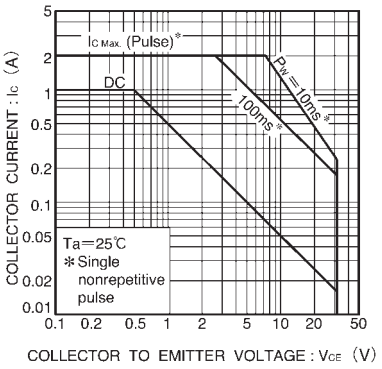


Fig.9 Safe operating area (2SD1664)