

Transistors

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	40	–	–	V	$I_C=50\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	32	–	–	V	$I_C=1mA$
Emitter-base breakdown voltage	BV_{EBO}	5	–	–	V	$I_E=50\mu A$
Collector cutoff current	I_{CBO}	–	–	1	μA	$V_{CB}=20V$
Emitter cutoff current	I_{EBO}	–	–	1	μA	$V_{EB}=4V$
DC current transfer ratio	2SD1766, 2SD1758, 2SD1862	h_{FE}	82	–	390	$V_{CE}=3V, I_C=0.5A$ *
			120	–	390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	0.5	0.8	V	$I_C/I_E=2A/0.2A$ *
Transition frequency	f_T	–	100	–	MHz	$V_{CE}=5V, I_E=-500mA, f=100MHz$ *
Output capacitance	C_{ob}	–	30	–	pF	$V_{CB}=10V, I_E=0A, f=1MHz$

* Measured using pulse current.

●Packaging specifications and h_{FE}

Type	h_{FE}	Package	Taping		
		Code	T100	TL	TV2
		Basic ordering unit (pieces)	1000	2500	2500
2SD1766	PQR		○	–	–
2SD1758	PQR		–	○	–
2SD1862	QR		–	–	○

 h_{FE} values are classified as follows :

Item	P	Q	R
h_{FE}	82 to 180	120 to 270	180 to 390

●Electrical characteristic curves

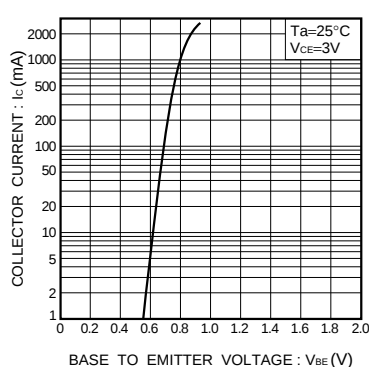


Fig.1 Grounded emitter propagation characteristics

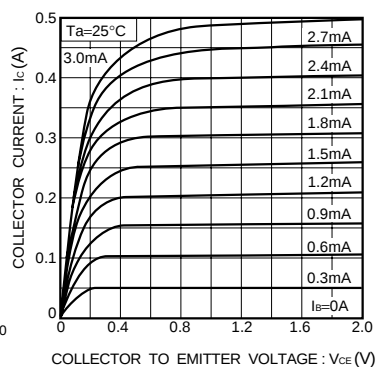


Fig.2 Grounded emitter output characteristics

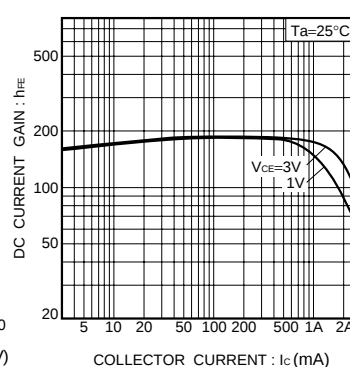


Fig.3 DC current gain vs. collector current

Transistors

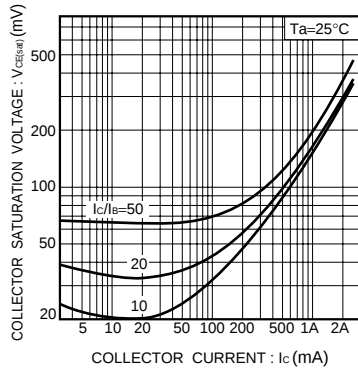


Fig.4 Collector-emitter saturation voltage vs. collector current

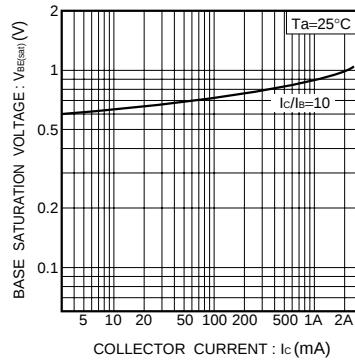


Fig.5 Collector-emitter saturation voltage vs. collector current

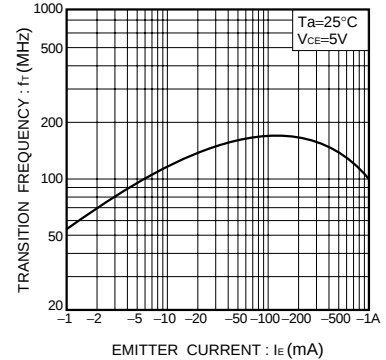


Fig.6 Transition frequency vs. emitter current

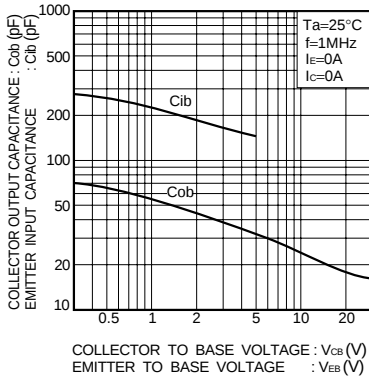


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

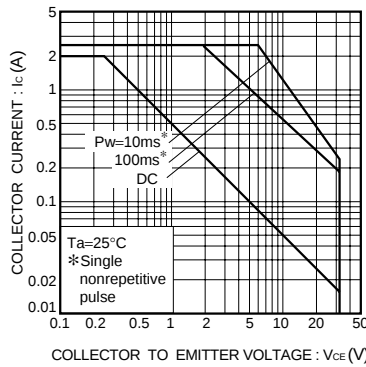


Fig.8 Safe operating area (2SD1766)

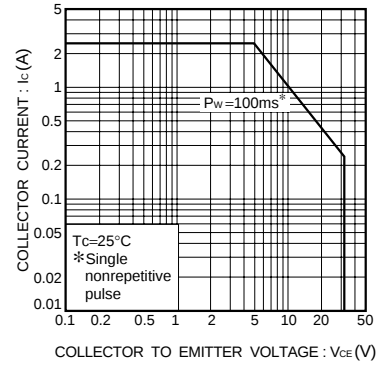


Fig.9 Safe operating area (2SD1758)

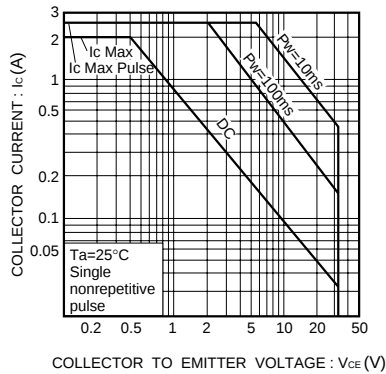


Fig.10 Safe operating area (2SD1862)

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