

High-current gain Power Transistor (60V, 3A)

2SD2318

●Features

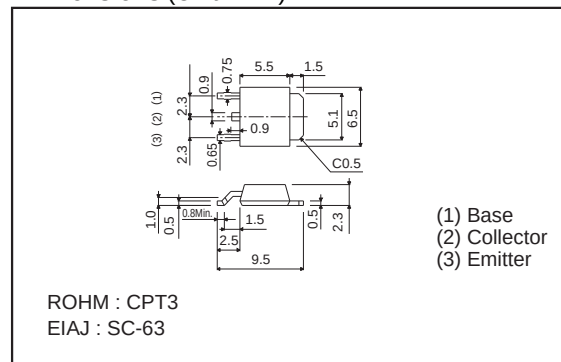
- 1) High DC current gain.
- 2) Low saturation voltage.
(Typ. $V_{CE(sat)} = 0.5V$ at $I_C / I_B = 2A / 0.5A$)

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	80	V
Collector-emitter voltage	V_{CEO}	60	V
Emitter-base voltage	V_{EBO}	6	V
Collector current	I_C	3	A
		4.5	A(Pulse) *
Collector power dissipation	P_C	1	W
		15	W(T _C =25°C)
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

 * Single pulse P_W=100ms

●Dimensions (Unit : mm)



●Packaging specifications and h_{FE}

Type	2SD2318
Package	CPT3
h _{FE}	UV
Code	TL
Basic ordering unit (pieces)	2500

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	80	—	—	V	$I_C = 50\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	60	—	—	V	$I_C = 1mA$
Emitter-base breakdown voltage	BV_{EBO}	6	—	—	V	$I_E = 50\mu A$
Collector cutoff current	I_{CBO}	—	—	100	μA	$V_{CB} = 80V$
Emitter cutoff current	I_{EBO}	—	—	100	μA	$V_{EB} = 6V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	1.0	V	$I_C/I_B = 2A/0.05A$ *
Base-emitter saturation voltage	$V_{BE(sat)}$	—	—	1.5	V	$I_C/I_B = 2A/0.05A$ *
DC current transfer ratio	h_{FE}	560	—	1800	—	$V_{CE}/I_C = 4V/0.5A$
Transition frequency	f_T	—	50	—	MHz	$V_{CE} = 5V, I_E = 0.2A, f = 10MHz$
Output capacitance	C_{ob}	—	60	—	pF	$V_{CB} = 10V, I_E = 0A, f = 1MHz$ *

*Measured using pulse current.

Electrical characteristic curves

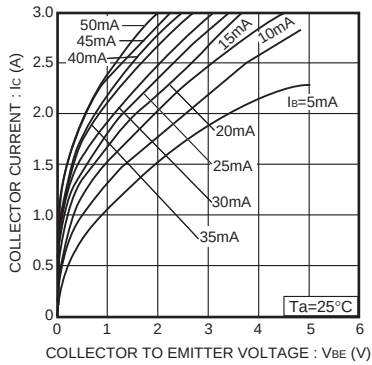


Fig.1 Grounded emitter output characteristics

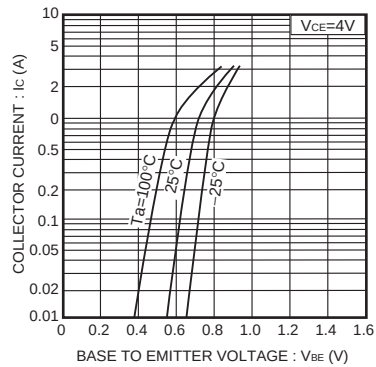


Fig.2 Grounded emitter propagation characteristics

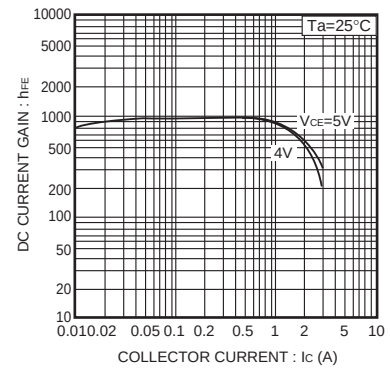


Fig.3 DC current gain vs. collector current

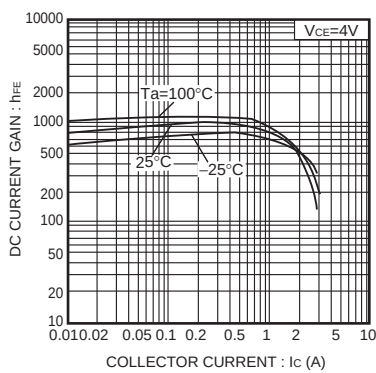


Fig.4 DC current gain vs. collector current

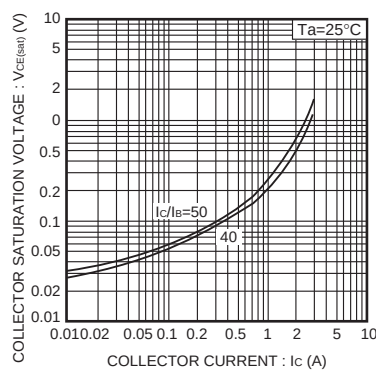


Fig.5 Collector-emitter saturation voltage vs. collector current

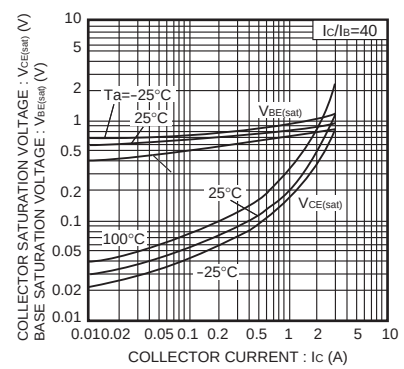


Fig.6 Collector-emitter saturation voltage
Base-emitter saturation voltage -Collector current

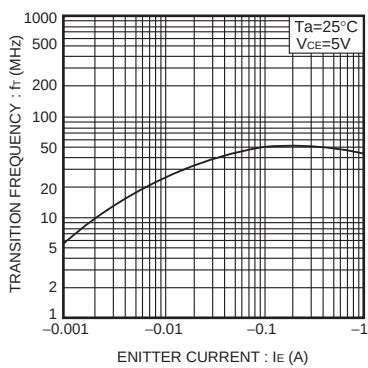


Fig.7 Resistance ratio vs. collector current

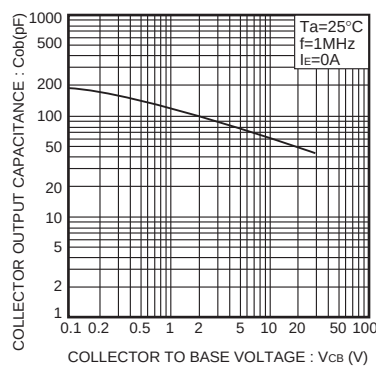


Fig.8 Collector output capacitance vs. collector-base voltage

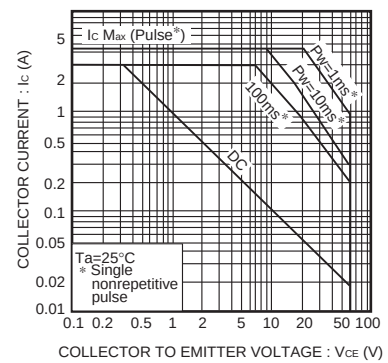


Fig.9 Safe operating area

Notes

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