

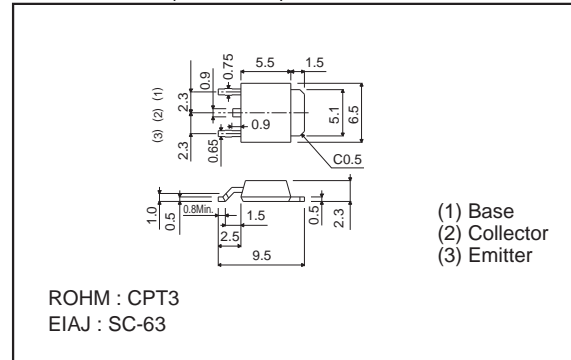
# High-current gain Power Transistor (60V, 3A)

**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(Tc=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 hFE**

Type	2SD2318
Package	CPT3
hFE	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	$\mu A$	$V_{CB}=80V$
Emitter cutoff current	$I_{EBO}$	-	-	100	$\mu A$	$V_{EB}=6V$
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

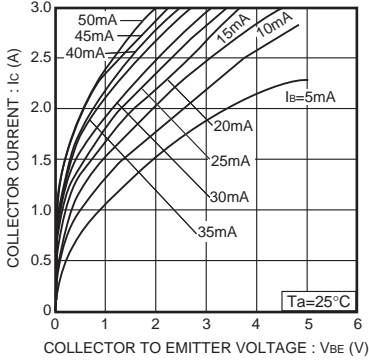


Fig.1 Grounded emitter output characteristics

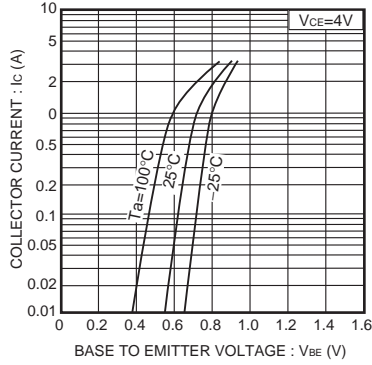


Fig.2 Grounded emitter propagation characteristics

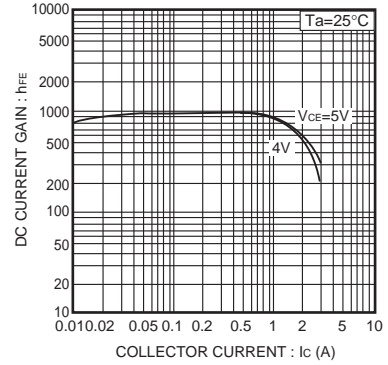


Fig.3 DC current gain vs. collector current

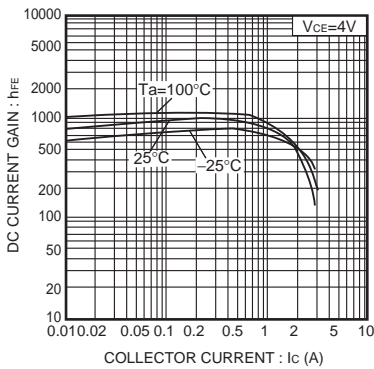


Fig.4 DC current gain vs. collector current

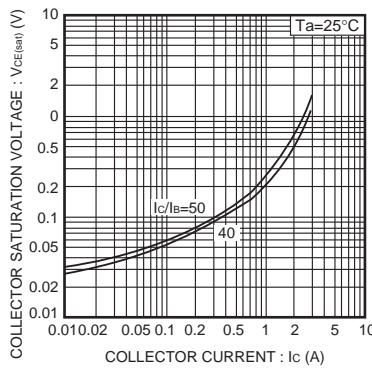


Fig.5 Collector-emitter saturation voltage vs. collector current

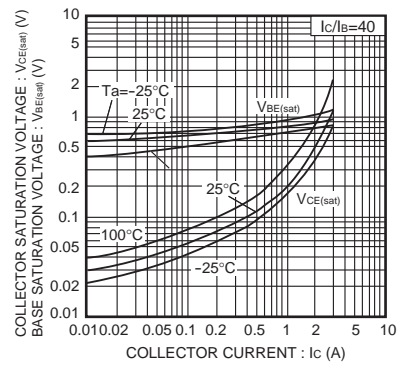


Fig.6 Collector-emitter saturation voltage Base-emitter saturation voltage -Collector current

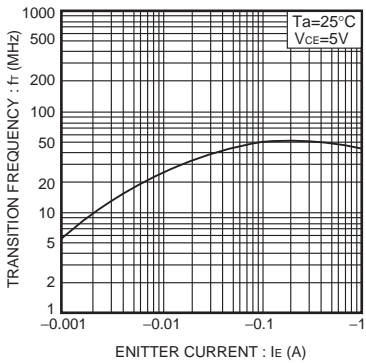


Fig.7 Resistance ratio vs. collector current

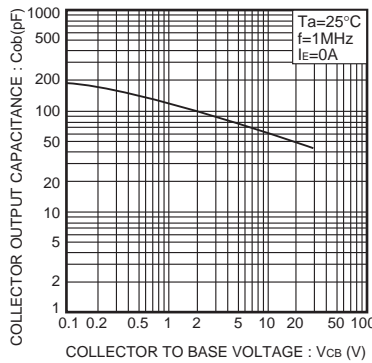


Fig.8 Collector output capacitance vs. collector-base voltage

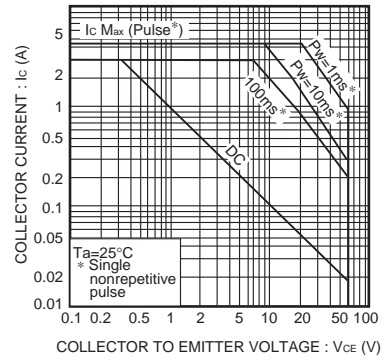


Fig.9 Safe operating area

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