

TO-252-2 Plastic-Encapsulated Transistors

2SD2118 TRANSISTOR (NPN)

FEATURES

Power dissipation

$$P_{CM}: 1 \text{ W (Tamb=25}^{\circ}\text{C)}$$

Collector current

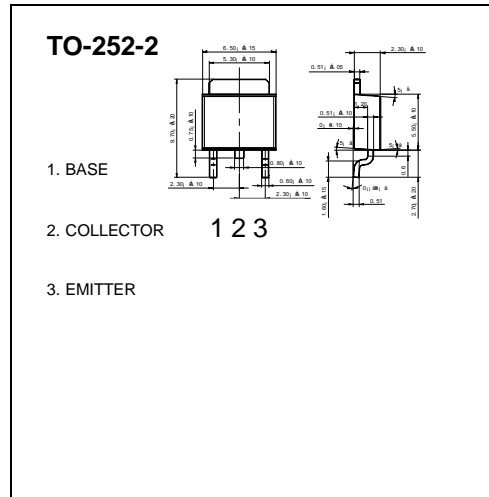
$$I_{CM}: 5 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO}: 50 \text{ V}$$

Operating and storage junction temperature range

$$T_J, T_{stg}: -55^{\circ}\text{C to } +150^{\circ}\text{C}$$



ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=50\mu\text{A}, I_E=0$	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=50\mu\text{A}, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=40\text{V}, I_E=0$			0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			0.5	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=2\text{V}, I_C=500\text{mA}$	120		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=4\text{A}, I_B=100\text{mA}$			1	V
Transition frequency	f_T	$V_{CE}=6\text{V}, I_C=50\text{mA}, f=100\text{MHz}$		150		MHz
Collector output capacitance	C_{ob}	$V_{CB}=20\text{V}, I_E=0, f=1\text{MHz}$		30		pF

CLASSIFICATION OF $h_{FE(1)}$

Rank	Q	R
Range	120-270	180-390
Marking		

Typical Characteristics

2SD2118

●Electrical characteristic curves

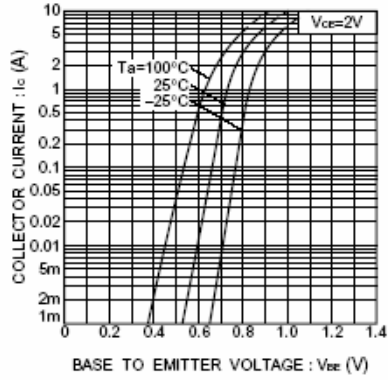


Fig.1 Grounded emitter propagation characteristics

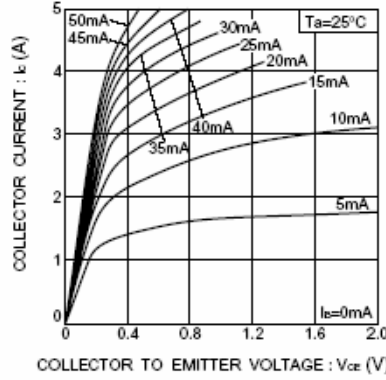


Fig.2 Grounded emitter output characteristics

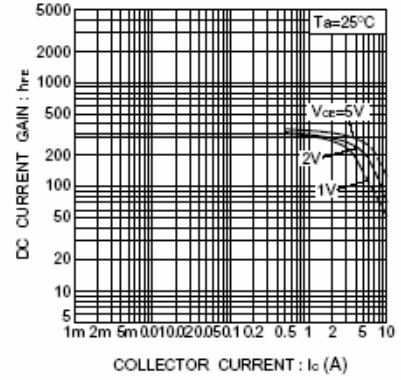


Fig.3 DC current gain vs. collector current (I)

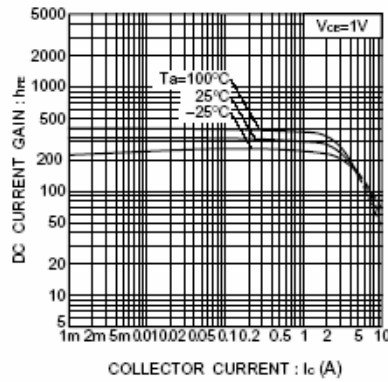


Fig.4 DC current gain vs. collector current (II)

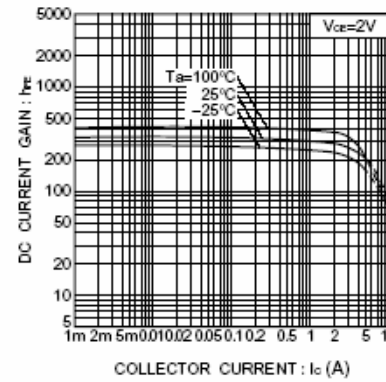


Fig.5 DC current gain vs. collector current (III)

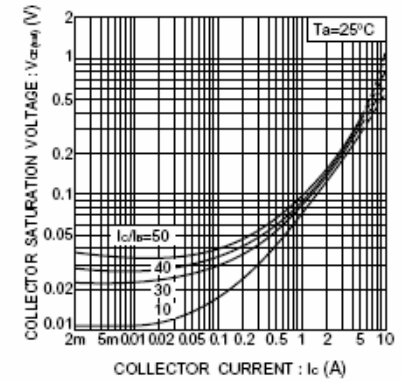


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

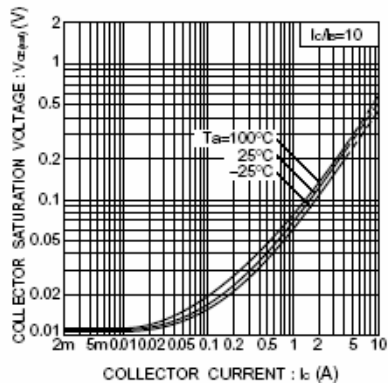


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

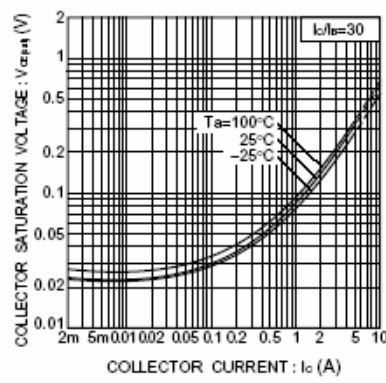


Fig.8 Collector-emitter saturation voltage vs. collector current (III)

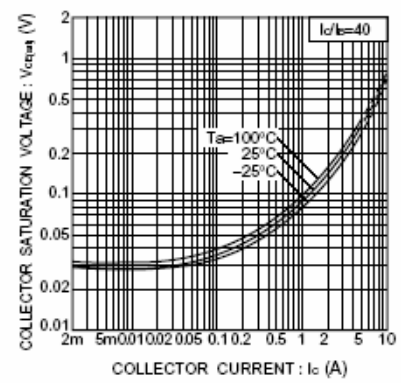


Fig.9 Collector-emitter saturation voltage vs. collector current (IV)