

2SD2118 TRANSISTOR (NPN)

FEATURES

Power dissipation

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

Collector current

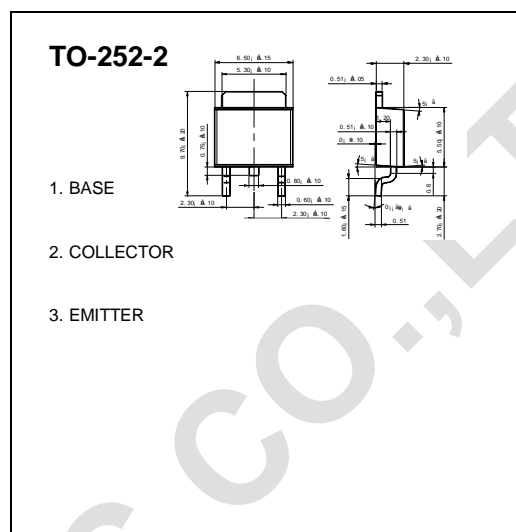
I_{CM} : 5 A

Collector-base voltage

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

Operating and storage junction temperature range

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



ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}C$ unless otherwise specified)

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

CLASSIFICATION OF $h_{FE(1)}$

Rank	Q	R
Range	120-270	180-390
Marking		

● Electrical characteristic curves

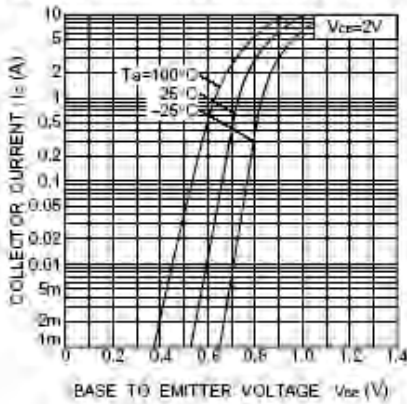


Fig. 1 Grounded emitter propagation characteristics

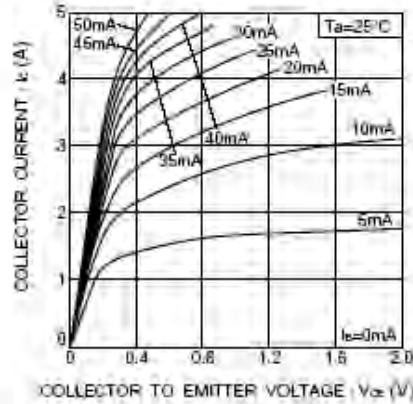


Fig. 2 Grounded emitter output characteristics

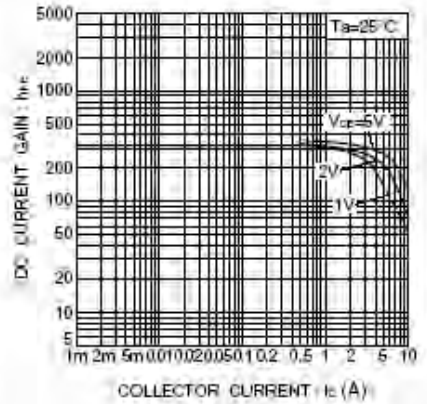


Fig. 3 DC current gain vs. collector current (I)

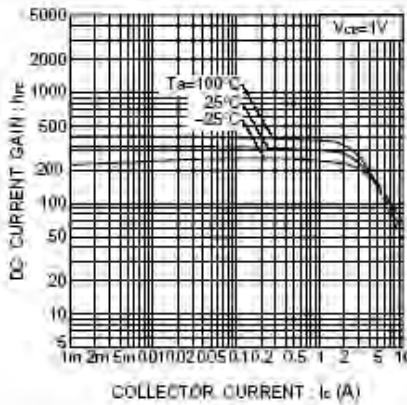


Fig. 4 DC current gain vs. collector current (II)

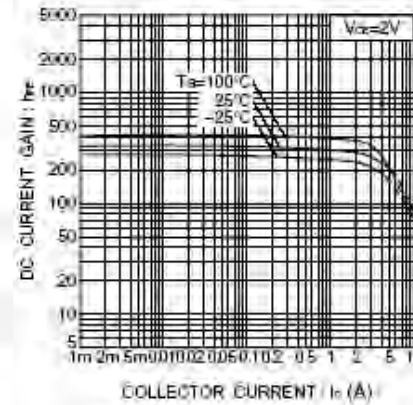


Fig. 5 DC current gain vs. collector current (III)

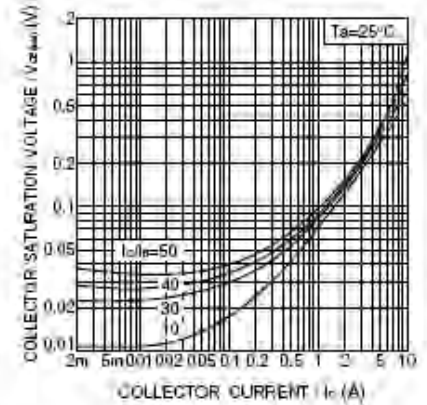


Fig. 6 Collector-emitter saturation voltage vs collector current (I)

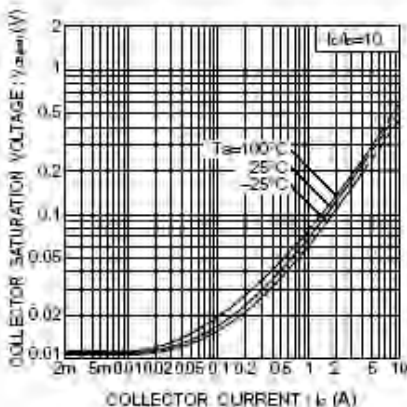


Fig. 7 Collector-emitter saturation voltage vs collector current (II)

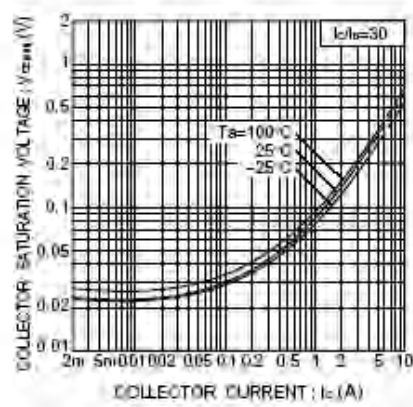


Fig. 8 Collector-emitter saturation voltage vs. collector current (III)

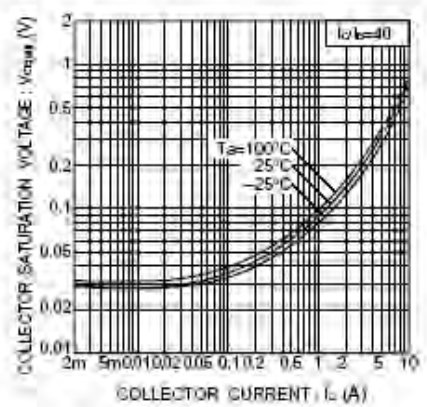


Fig. 9 Collector-emitter saturation voltage vs. collector current (IV)