MJD112 TRANSISTOR (NPN)

TO-252

1.BASE
2.COLLECTOR
3.EMITTER

FEATURES

- Complementary Darlington Power Transistors
  Dpak for Surface Mount Applications

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

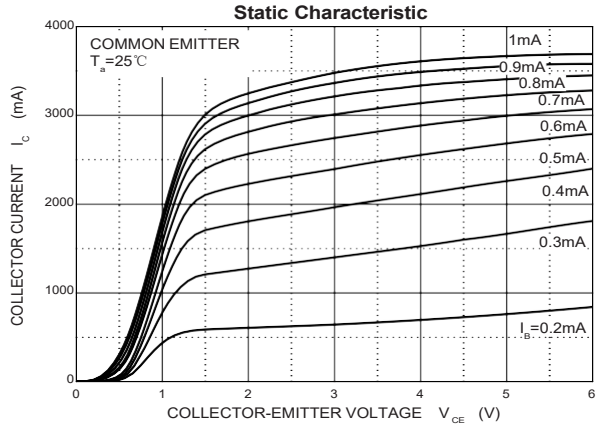
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	2	A
P_C	Collector Power Dissipation	1	W
$R_{\theta JC}$	Thermal resistance, junction to case	6.25	℃/W
$R_{\theta JA}$	Thermal resistance, junction to Ambient	71.4	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55-150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

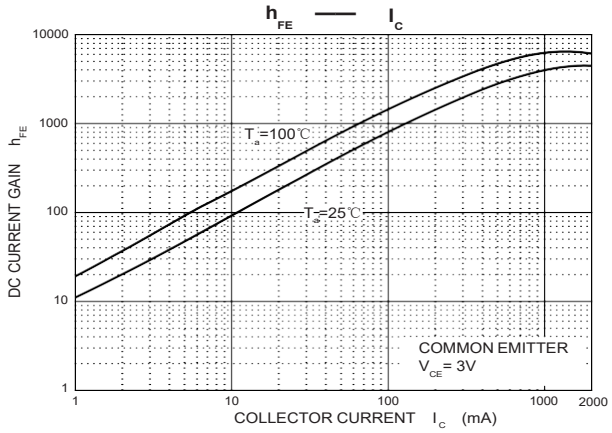
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=1mA,I_E=0	100			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C =30mA,I_B=0	100			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=5mA,I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=100V,I_E=0			20	μA
Collector-emitter cut-off current	I_{CEO}	V_{CE}=50V,I_E=0			20	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V,I_C=0			2	mA
DC current gain	$h_{FE(1)}$	V_{CE}=3V,I_C=500mA	500			
	$h_{FE(2)}$	V_{CE}=3V,I_C=2A	1000		12000	
	$h_{FE(3)}$	V_{CE}=3V,I_C=4A	200			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	I_C=2A,I_B=8mA			2	V
	$V_{CE(sat)2}$	I_C=4A,I_B=40mA			3	V
Base-emitter voltage	V_{BE}	V_{CE}=3V,I_C=2A			2.8	V
Transition frequency	f_T	V_{CE}=10V,I_C=0.75A,f=1MHz	25			MHz
Collector output capacitance	C_{ob}	V_{CB}=10V,I_E=0,f=0.1MHz			100	pF

Typical Characteristics MJD112

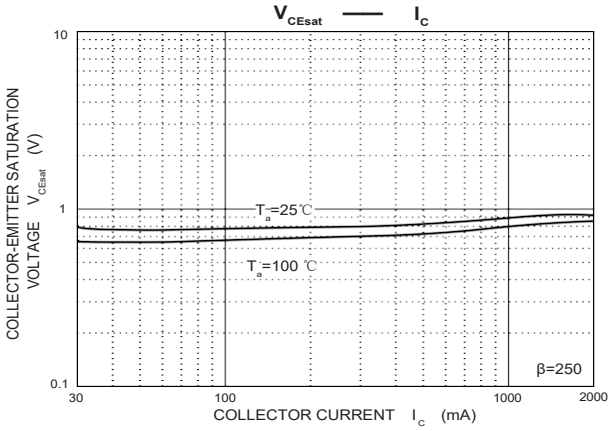
Static Characteristic



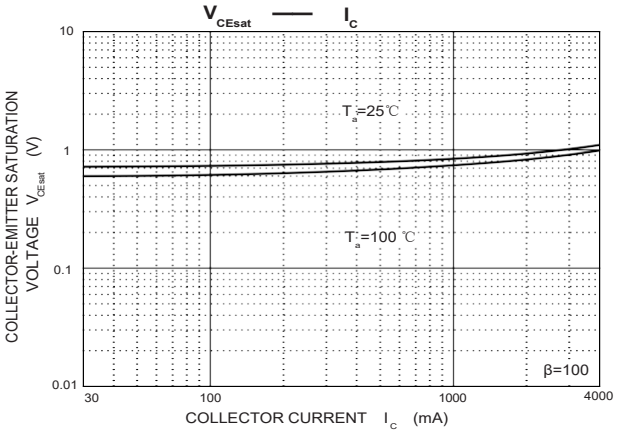
h_FE —— I_C



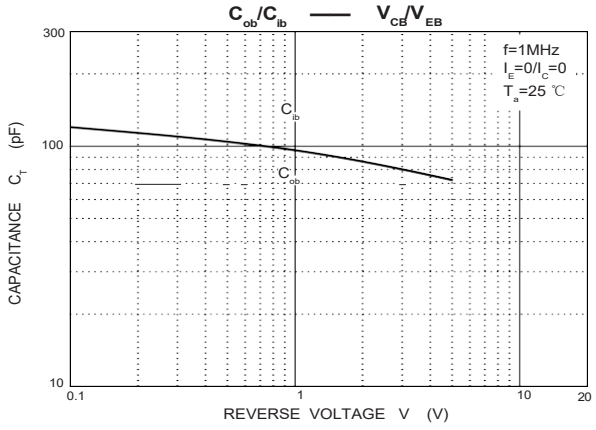
V_CEsat —— I_C



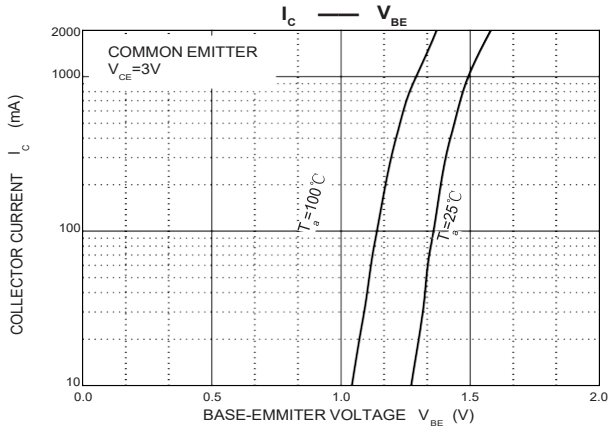
V_CEsat —— I_C



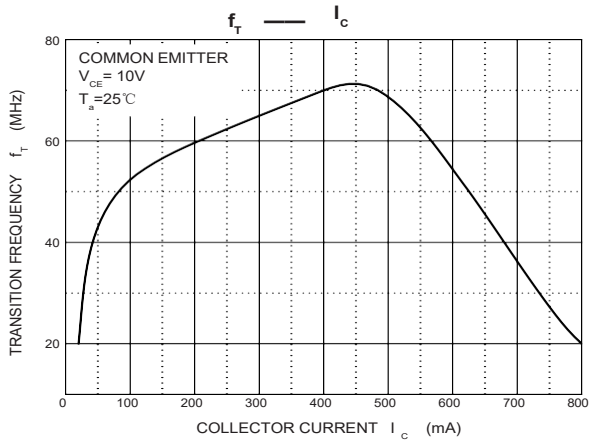
C_ob/C_ib —— V_CB/V_EB



I_C —— V_BE



f_T —— I_C



P_C —— T_a