

TO-251/TO-252-2 Plastic-Encapsulate Transistors

MJD112

TRANSISTOR (NPN)

FEATURES

- Complementary darlington power transistors
- dpak for surface mount applications

MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
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 _{θJC}	Thermal resistance, junction to case	6.25	°C/W
R _{θJA}	Thermal resistance, junction to Ambient	71.4	°C/W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C

TO-251
TO-252-2

1. BASE
2. COLLECTOR
3. EMITTER



ELECTRICAL CHARACTERISTICS (T_{amb}=25°C 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

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