MJD112G

Complementary power Darlington transistors

General Description

The devices are manufactured in planar technology with “base island” layout and monolithic Darlington configuration. The resulting transistors show exceptional high gain performance coupled with very low saturation voltage

Product Summary

VCBO	IC
100V	2A

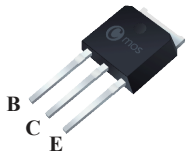
Applications

- General purpose linear and switching

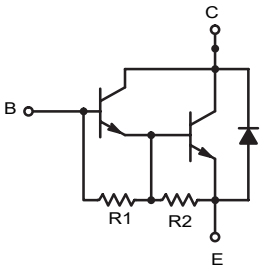
Features

- Low collector-emitter saturation voltage
- Integrated antiparallel collector-emitter diode

TO-251 Pin Configuration



TO-251



Device summary

Order codes	Marking	Polarity	Package	Packaging
MJD112G	MJD112G	NPN	IPAK	Tape and reel

Electrical ratings

Symbol	Parameter	Value	Units
V_{CBO}	Collector-base voltage (I_E = 0)	100	V
V_{CEO}	Collector-base voltage (I_B = 0)	100	V
V_{EBO}	Emitter-base voltage (I_C = 0)	5	V
I_C	Collector current	2	A
I_{CM}	Collector peak current	4	A
I_B	Base current	0.05	A
P_{TOT}	Total dissipation at Tcase = 25°C	20	W
T_{STG}	Storage Temperature	-65 to 150	℃
T_J	Operating Junction Temperature Range	150	℃

Thermal data

Symbol	Parameter	Value	Unit
$R_{thj\text{-}c}$	Thermal resistance junction-case max.	6.25	℃/W

Electrical Characteristics (T_J=25 ℃, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_{CB0}	Collector cut-off current (I_E = 0)	V_{CB} =100V	---	---	100	nA
I_{CEO}	Collector cut-off current($I_{B=0}$)	V_{CE}=100V	---	---	100	nA
I_{EBO}	Emitter cut-off current (I_C = 0)	V_{EB}=5V	---	---	0.8	mA
$V_{CEO(sus)}$ (1)	Collector-emitter sustaining voltage (I_B = 0)	I_C=8mA	100	---	---	V
$V_{CE(sat)}$ (1)	Collector-emitter sustaining voltage	I_C=8A I_B =80mA	---	---	1.5	V
$V_{BE(on)}$ (1)	Base-emitter on voltage	I_C=8A I_B =80mA	---	---	2.5	V
h_{FE}	DC current gain	I_C=4A V_{CE}=4V I_C=2A V_{CE}=4V	1 1	--- ---	5 10	k

Note (1) Pulsed duration = 300μs, duty cycle ≤1.5%

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