

Complementary power Darlingtons

General Description

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

Features

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

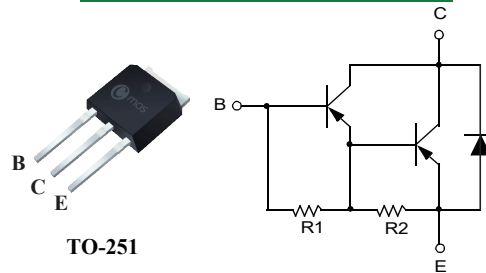
Product Summary

VCBO	IC
100V	2A

Applications

- General purpose linear and switching

TO-251 Pin Configuration



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 $T_{case} = 25^\circ C$	20	W
T_{STG}	Storage Temperature	-65 to 150	$^\circ C$
T_J	Operating Junction Temperature Range	150	$^\circ C$

Thermal data

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

Electrical Characteristics ($T_J=25^{\circ}C$, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	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 = 300 μ s, duty cycle \leq 1.5%

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