

Silicon NPN Power Transistors

MJH10012

DESCRIPTION

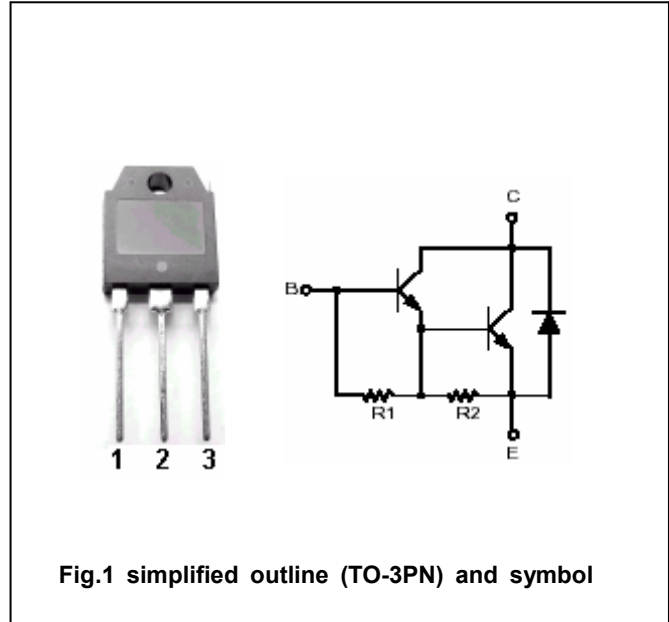
- With TO-3PN package
- High voltage,high current
- DARLINGTON

APPLICATIONS

- Automotive ignition
- Switching regulator
- Motor control applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

Absolute maximum ratings($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	600	V
V_{CEO}	Collector-emitter voltage	Open base	400	V
V_{EBO}	Emitter-base voltage	Open collector	8	V
I_C	Collector current		10	A
I_{CP}	Collector current-peak		15	A
I_B	Base current		2	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	118	W
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-c}$	Thermal resistance from junction to case	0.95	$^\circ\text{C}/\text{W}$

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CHARACTERISTICS

T_j=25 °C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{CEQ(SUS)}	Collector-emitter sustaining voltage	I _C =0.2A ; I _B =0	400			V
V _{CEsat-1}	Collector-emitter saturation voltage	I _C =3A; I _B =0.6A			1.5	V
V _{CEsat-2}	Collector-emitter saturation voltage	I _C =6A; I _B =0.6A			2.0	V
V _{CEsat-3}	Collector-emitter saturation voltage	I _C =10A; I _B =2A			2.5	V
V _{BEsat-1}	Base-emitter saturation voltage	I _C =6A; I _B =0.6A			2.5	V
V _{BEsat-2}	Base-emitter saturation voltage	I _C =10A; I _B =2A			3.0	V
V _{BE}	Base-emitter on voltage	I _C =10A ; V _{CE} =6V			2.8	V
I _{CBO}	Collector cut-off current	V _{CB} =600V; I _E =0			1	mA
I _{CEO}	Collector cut-off current	V _{CE} =400V; I _B =0			1	mA
I _{EBO}	Emitter cut-off current	V _{EB} =6V; I _C =0			40	mA
h _{FE-1}	DC current gain	I _C =3A ; V _{CE} =6V	300			
h _{FE-2}	DC current gain	I _C =6A ; V _{CE} =6V	100		2000	
h _{FE-3}	DC current gain	I _C =10A ; V _{CE} =6V	20			
V _F	Diode forward voltage	I _F =10A			3.5	V
t _s	Storage time	I _C =6.0A ; V _{CC} =12V I _{B1} =I _{B2} =0.3A			15	μs
t _f	Fall time				15	μs

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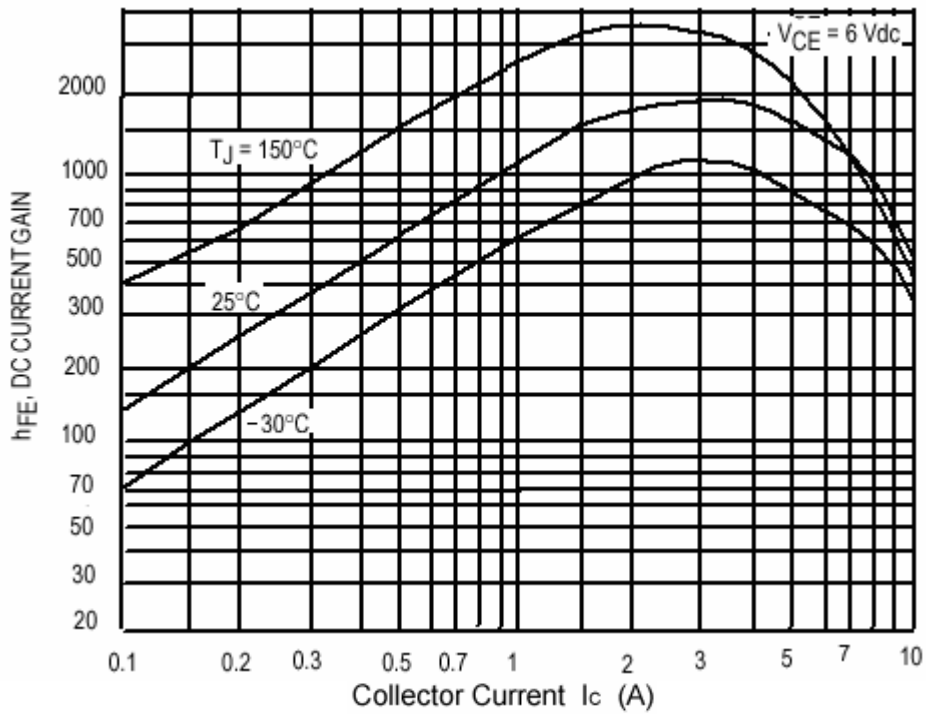


Fig.3 DC current Gain

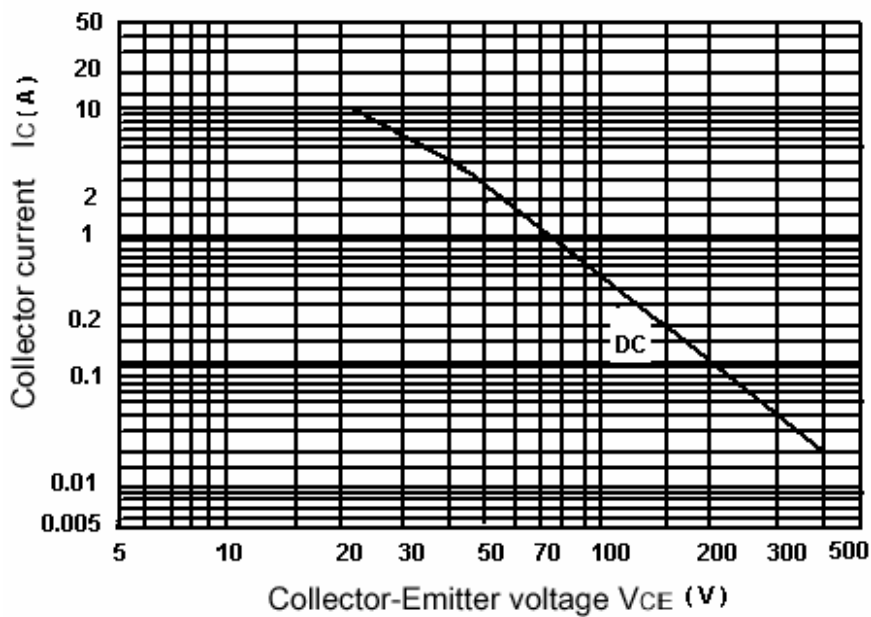


Fig.4 Safe Operating Area