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

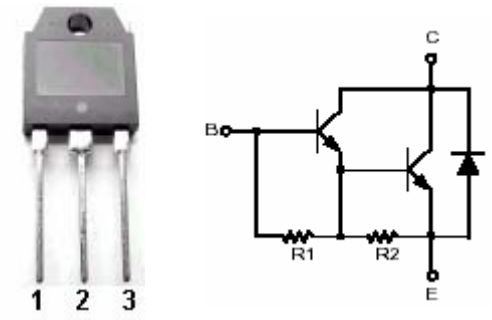

Fig.1 simplified outline (TO-3PN) and symbol

Abolute maximum ratings(Ta=25℃)

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℃	118	W
T_j	Junction temperature		150	℃
T_{stg}	Storage temperature		-55~150	℃

THERMAL CHARACTERISTICS

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

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CHARACTERISTICS

Tj=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	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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PACKAGE OUTLINE

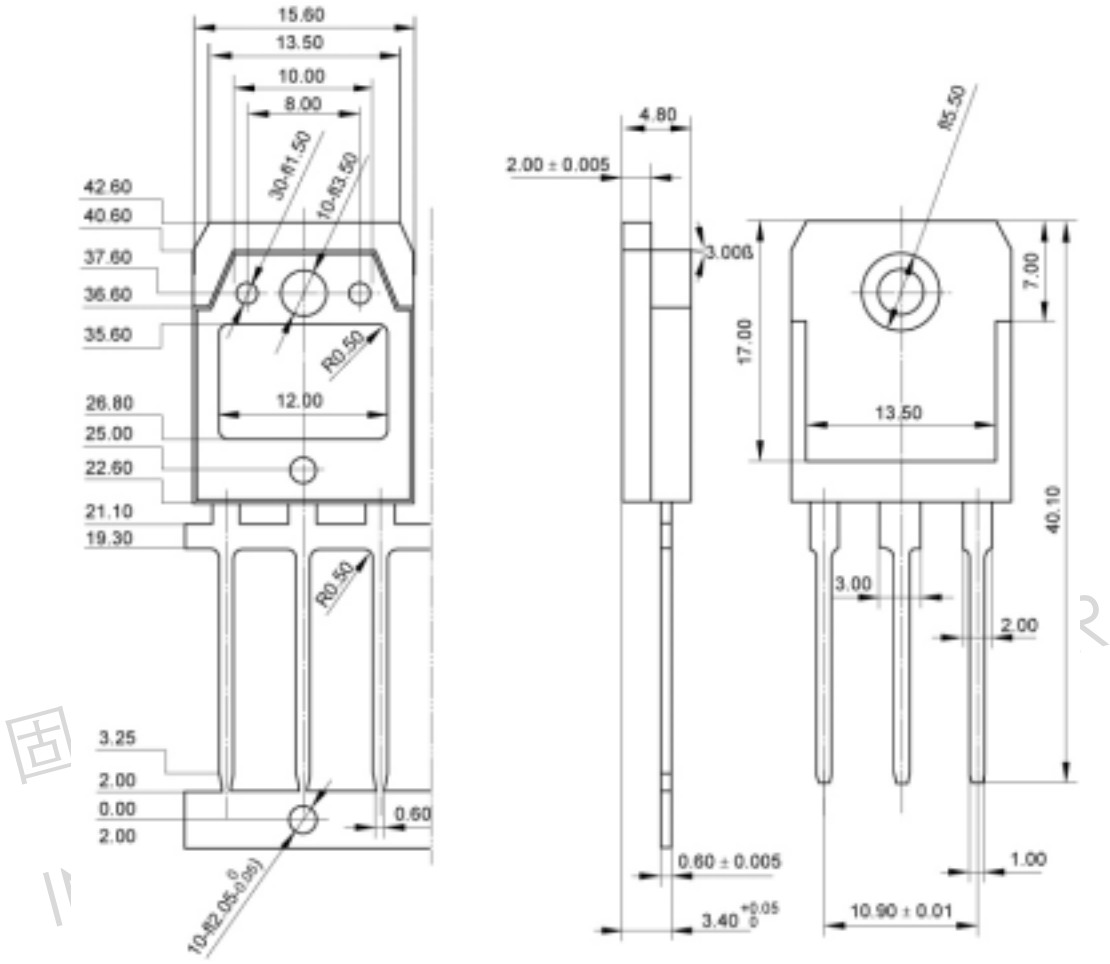

Fig.2 outline dimensions (unindicated tolerance:±0.1mm)

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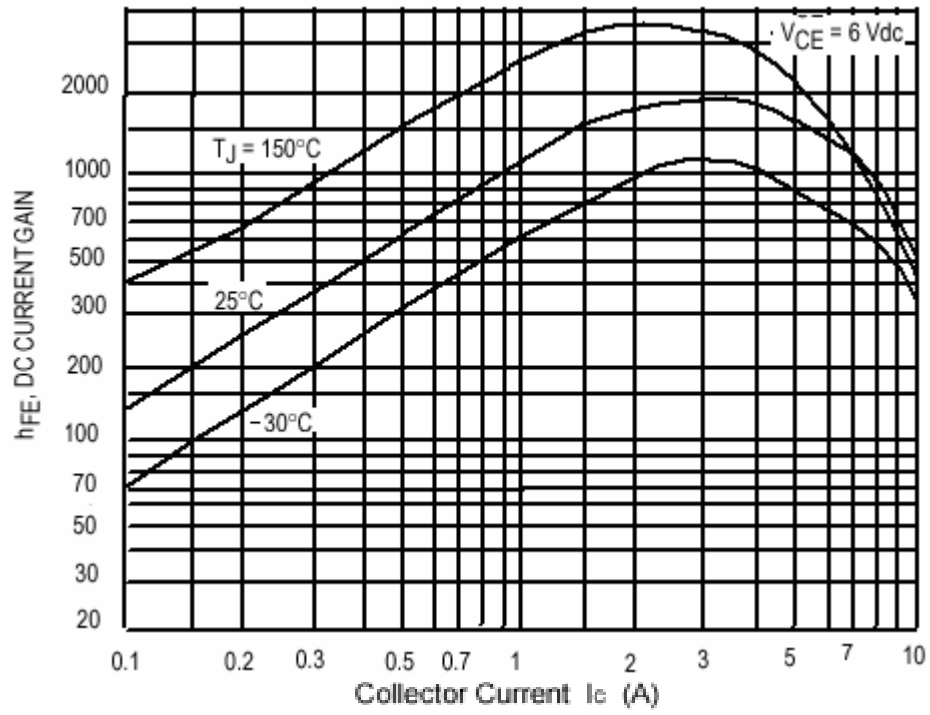

Fig.3 DC current Gain

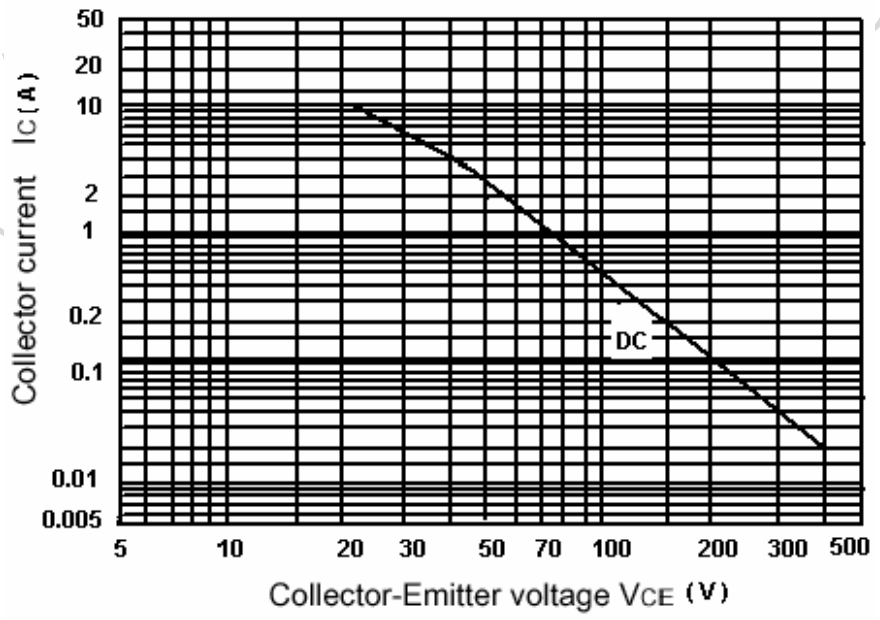

Fig.4 Safe Operating Area