Silicon NPN Power Transistors 2SC3153

DESCRIPTION

·With TO-3PN package
·High breakdown voltage (V_{CBO}≥900V)
·Fast switching speed
·Wide ASO□Safe Operating Area□

APPLICATIONS

·800V/6A switching regulator applications

PINNING

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

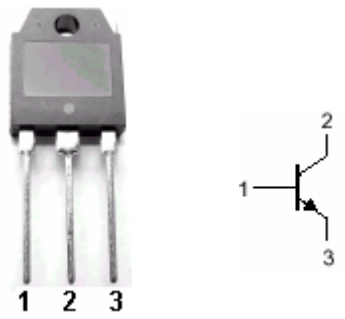

Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings (Ta=25□)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	900	V
V_{CEO}	Collector-emitter voltage	Open base	800	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		6	A
I_{CM}	Collector current-peak		20	A
I_B	Base current		3	A
P_C	Collector power dissipation	T_C=25□	100	W
T_j	Junction temperature		150	□
T_{stg}	Storage temperature		-55~150	□

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CHARACTERISTICS

Tj=25□ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=5mA ;R_{BE}=∞	800			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=1mA ;I_E=0	900			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=1mA ;I_C=0	7			V
V_{CEsat}	Collector-emitter saturation voltage	I_C=3A; I_B=0.6A			2.0	V
V_{BEsat}	Base-emitter saturation voltage	I_C=3A ;I_B=0.6A			1.5	V
I_{CBO}	Collector cut-off current	V_{CB}=800V; I_E=0			10	μA
I_{EBO}	Emitter cut-off current	V_{EB}=5V; I_C=0			10	μA
h_{FE-1}	DC current gain	I_C=0.4A ; V_{CE}=5V	10		40	
h_{FE-2}	DC current gain	I_C=2A ; V_{CE}=5V	8			
C_{OB}	Output capacitance	I_E=0 ; V_{CB}=10V;f=1MHz		120		pF
f_T	Transition frequency	I_C=0.4A ; V_{CE}=10V		15		MHz
Switching times						
t_{on}	Turn-on time	I_C=4A;I_{B1}=0.8A;I_{B2}=-1.6A R_L=100Ω,V_{CC}=400V			1.0	μs
t_s	Storage time				3.0	μs
t_f	Fall time				0.7	μs

◆ **h_{FE-1} classifications**

K	L	M
10-20	15-30	20-40

PACKAGE OUTLINE

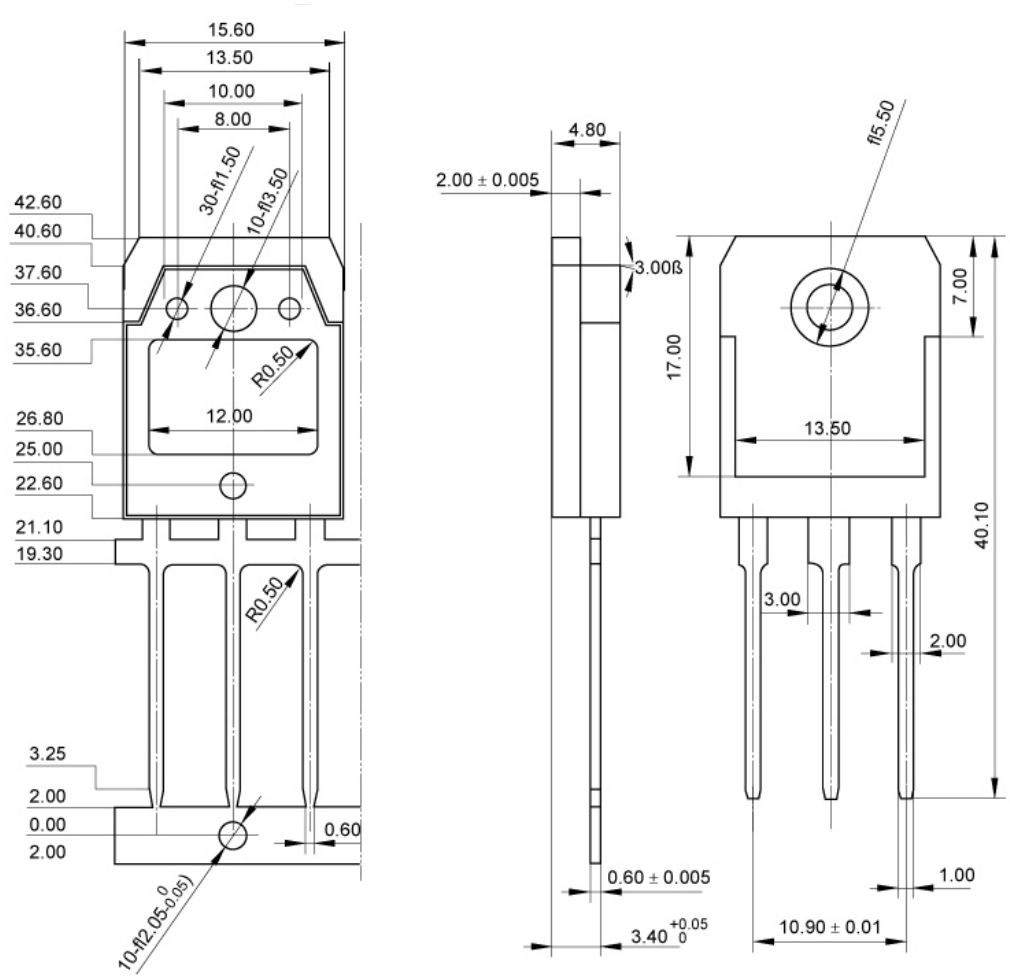

Fig.2 outline dimensions

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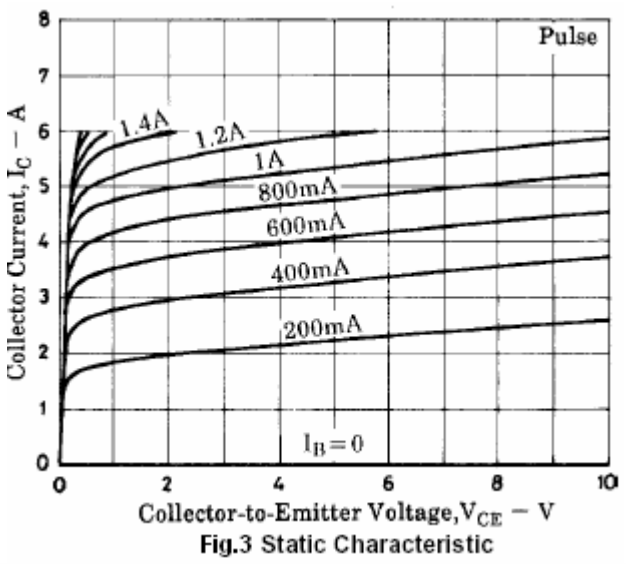

Fig.3 Static Characteristic

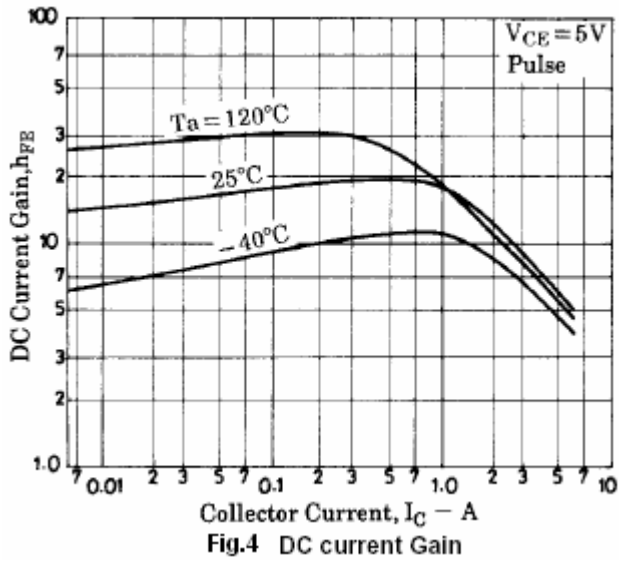

Fig.4 DC current Gain

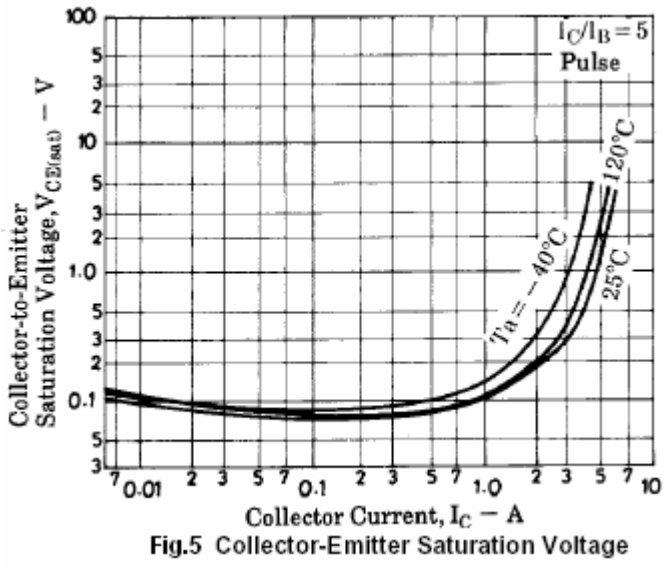

Fig.5 Collector-Emitter Saturation Voltage

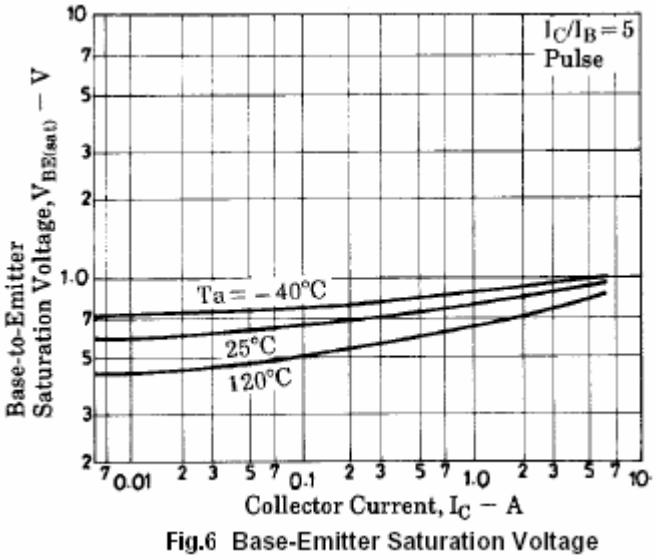

Fig.6 Base-Emitter Saturation Voltage

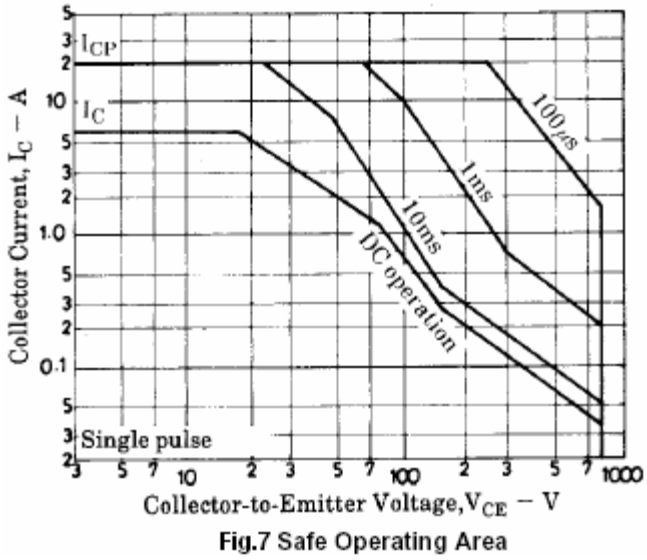

Fig.7 Safe Operating Area