

Silicon NPN Power Transistors

2SC4460

DESCRIPTION

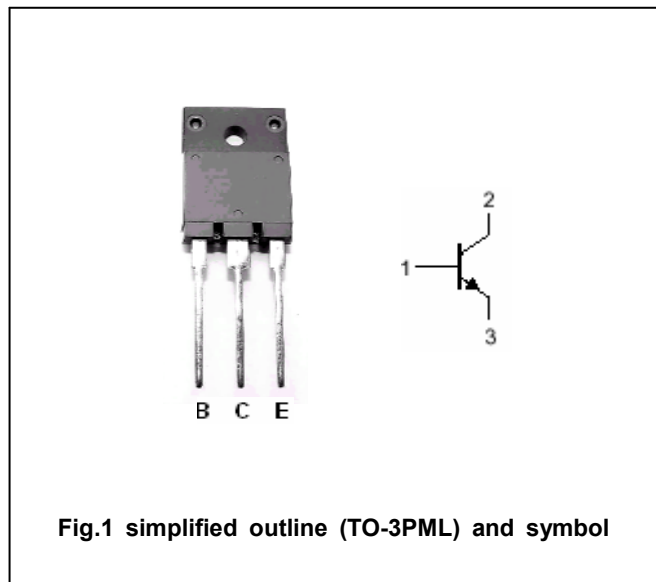
- With TO-3PML package
- High breakdown voltage, high reliability.
- Fast switching speed.
- Wide area of safe operation

APPLICATIONS

- For switching regulator applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector
3	Emitter

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	800	V
V_{CEO}	Collector-emitter voltage	Open base	500	V
V_{EBO}	Emitter-base voltage	Open collector	7	V
I_C	Collector current		15	A
I_{CM}	Collector current-peak		25	A
I_B	Base current		4	A
P_C	Collector power dissipation	$T_C=25^\circ\text{C}$	55	W
			3	
T_j	Junction temperature		150	$^\circ\text{C}$
T_{stg}	Storage temperature		-55~150	$^\circ\text{C}$

Silicon NPN Power Transistors

2SC4460

CHARACTERISTICS

Tj=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=1mA; I_E=0$	800			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=5mA; R_{BE}=\infty$	500			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=1mA; I_C=0$	7			V
$V_{CEX(SUS)}$	Collector-emitter sustaining voltage	$I_C=5A; I_{B1}=2A; I_{B2}=-2A; L=500\mu H$	500			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C=6A; I_B=1.2A$			1.0	V
V_{BEsat}	Base-emitter saturation voltage	$I_C=6A; I_B=1.2A$			1.5	V
I_{CBO}	Collector cut-off current	$V_{CB}=500V; I_E=0$			10	μA
I_{EBO}	Emitter cut-off current	$V_{EB}=5V; I_C=0$			10	μA
h_{FE-1}	DC current gain	$I_C=1.2A; V_{CE}=5V$	15		50	
h_{FE-2}	DC current gain	$I_C=6A; V_{CE}=5V$	8			
f_T	Transition frequency	$I_C=1.2A; V_{CE}=10V$		18		MHz
C_{OB}	Output capacitance	$V_{CB}=10V; f=1MHz$		160		pF

Switching times

t_{on}	Turn-on time	$I_C=5I_{B1}=-2.5I_{B2}=7A; R_L=28.6\Omega; V_{CC}=200V$			0.5	μs
t_{stg}	Storage time				3.0	μs
t_f	Fall time				0.3	μs

◆ h_{FE-1} classifications

L	M	N
15-30	20-40	30-50

Silicon NPN Power Transistors

2SC4460

PACKAGE OUTLINE

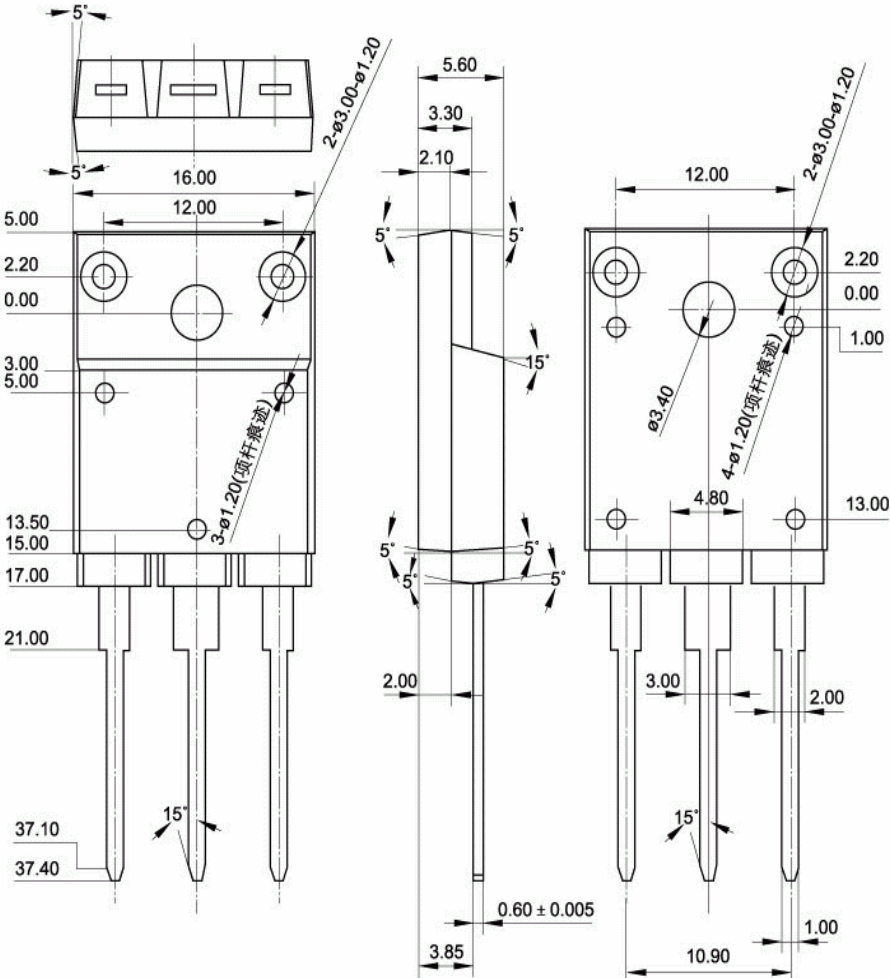


Fig.2 Outline dimensions

Silicon NPN Power Transistors

2SC4460

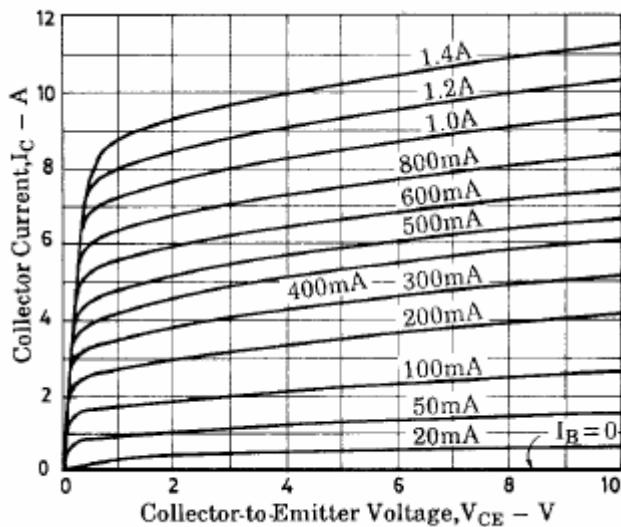


Fig.3 Static Characteristic

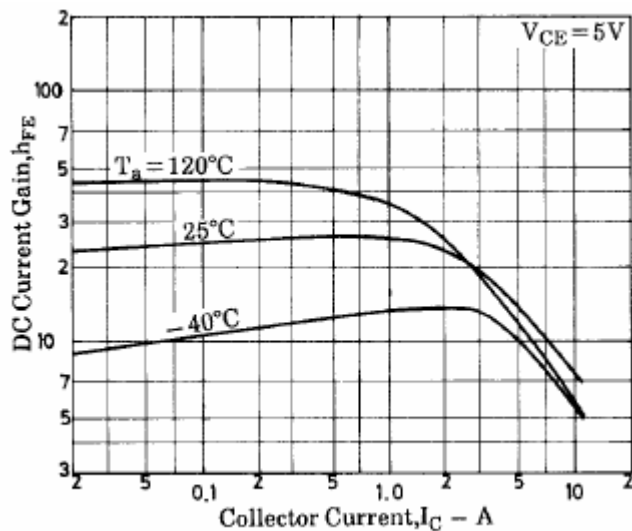


Fig.4 DC current Gain

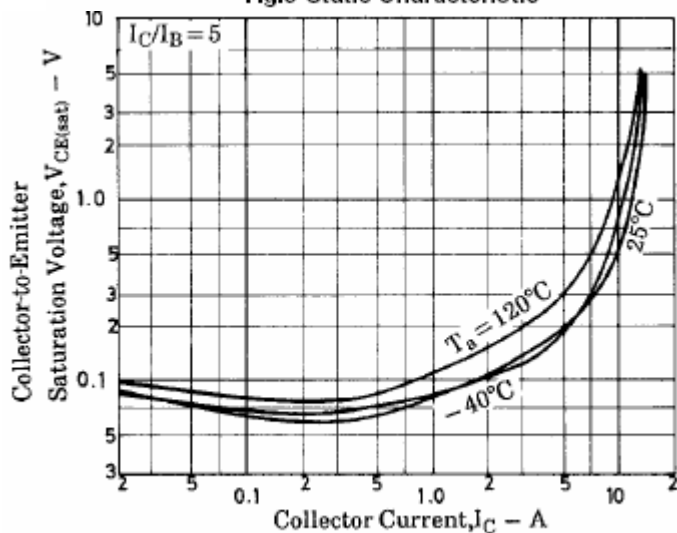


Fig.5 Collector-Emitter Saturation Voltage

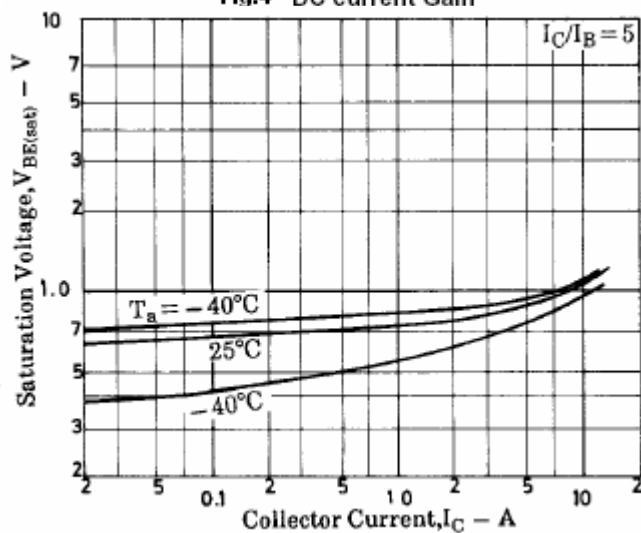


Fig.6 Base-Emitter Saturation Voltage

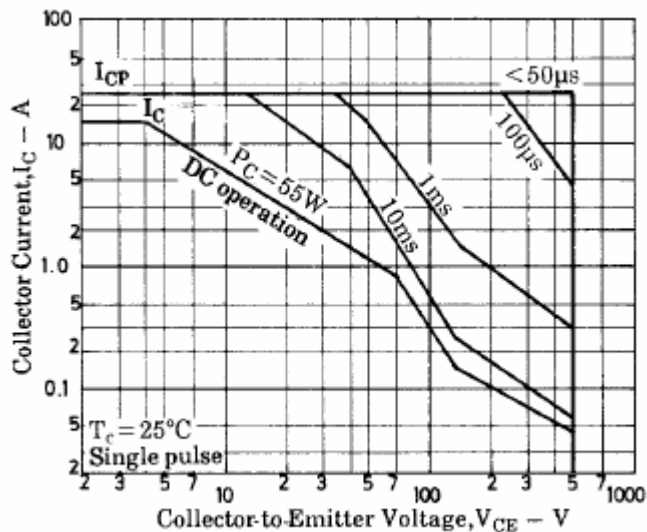


Fig.7 Safe Operating Area