Ordering number: EN 2488

SANYO No.2488

2SC3664

NPN Triple Diffused Planar Type
Darlington Silicon Transistor

HIGH-VOLTAGE SWITCHING APPLICATIONS

Applications

- Induction cookers
- High-voltage, high-power switching

Features

- Fast speed (adoption of MBIT process)
- High breakdown voltage (V_{CBO}=800V)
- High reliability (adoption of HVP process)
- On-chip damper diode

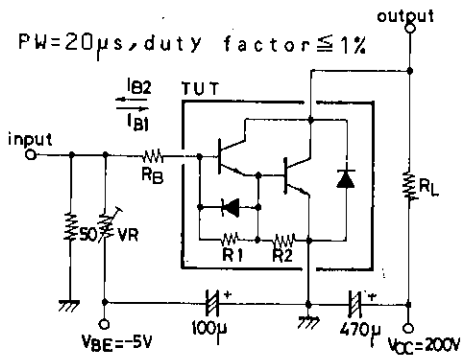
Absolute Maximum Ratings at Ta=25°C

				unit
Collector-to-Base Voltage	V_{CBO}		800	V
Collector-to-Emitter Voltage	V_{CEO}		400	V
Emitter-to-Base Voltage	V_{EBO}		5	V
Collector Current	I_C		20	A
Peak Collector Current	i_{cp}		40	A
Base Current	I_B		3	A
Collector Dissipation	P_C	Tc=25°C	150	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

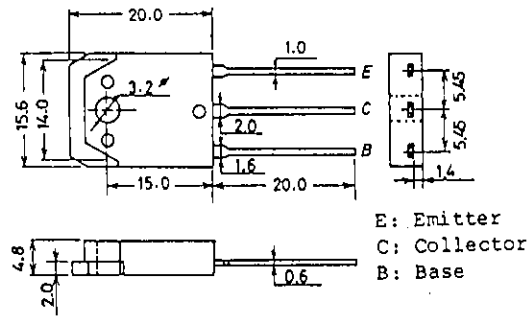
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=800V, I_E=0			1.0	mA
Emitter Cutoff Current	I_{EBO}	V_{EB}=5V, I_C=0			600	mA
DC Current Gain	h_{FE}	V_{CE}=5V, I_C=20A	80			
Diode Forward Voltage	V_F	I_{EC}=20A			2.0	V
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=20A, I_B=1A			2.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=20A, I_B=1A			2.5	V
C-E Sustain Voltage	$V_{CEO(sus)}$	I_C=100mA	400			V
Fall Time	t_f	I_C=20A, I_{B1}=1A, I_{B2}=-4A, V_{CC}=200V, R_L=10ohms			1.5	μs

Switching Time Test Circuit

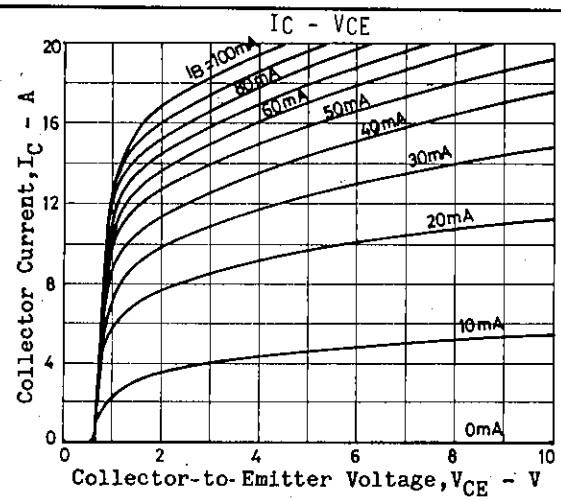


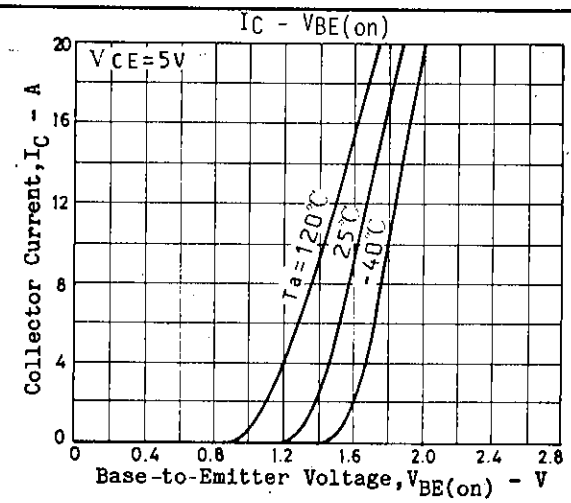
Unit (Resistance : Ω, Capacitance : F)

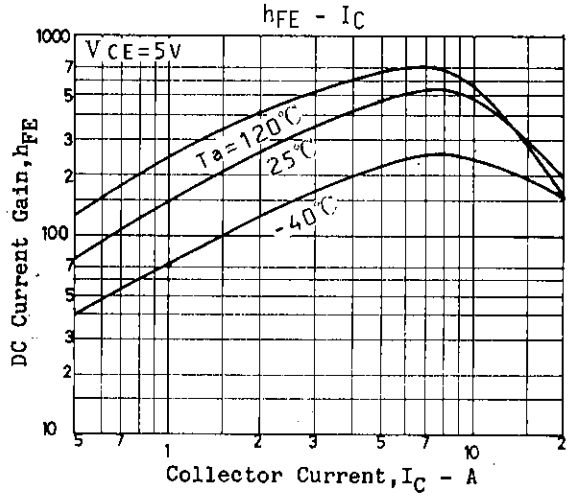
Package Dimensions 2022
(unit: mm)

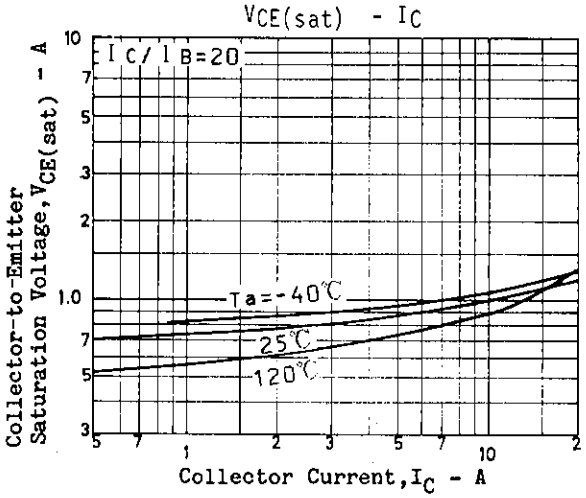


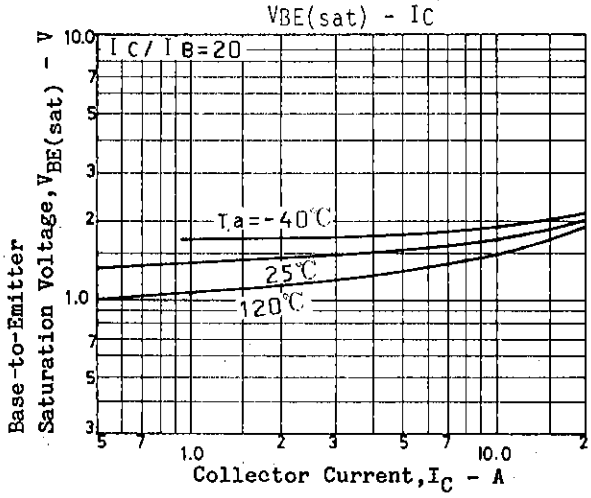
SANYO: TO3PB

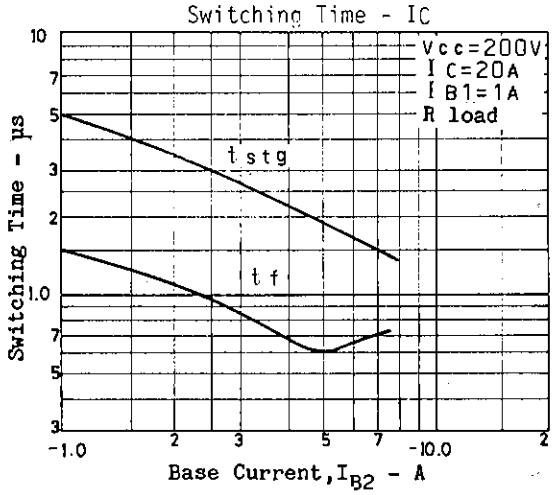

IC - VCE
IB=100mA
80mA
60mA
50mA
40mA
30mA
20mA
10mA
0mA
Collector Current, IC - A
Collector-to-Emitter Voltage, VCE - V

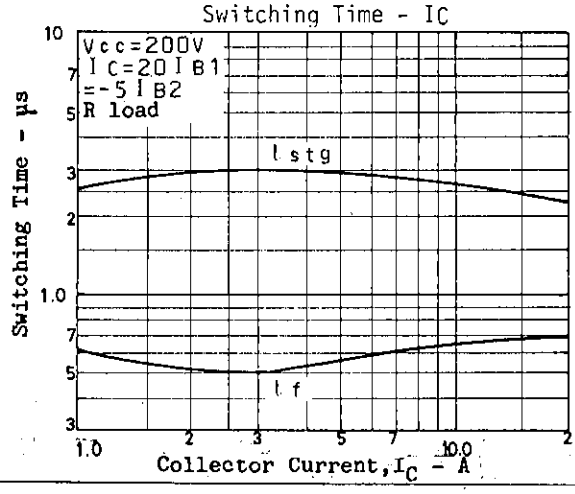

IC - VBE(on)
VCE=5V
Ta=120℃
25℃
-40℃
Collector Current, IC - A
Base-to-Emitter Voltage, VBE(on) - V

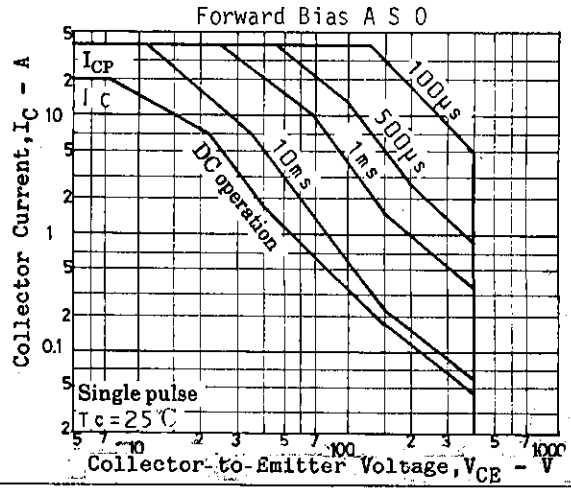

hFE - IC
VCE=5V
Ta=120℃
25℃
-40℃
DC Current Gain, hFE
Collector Current, IC - A

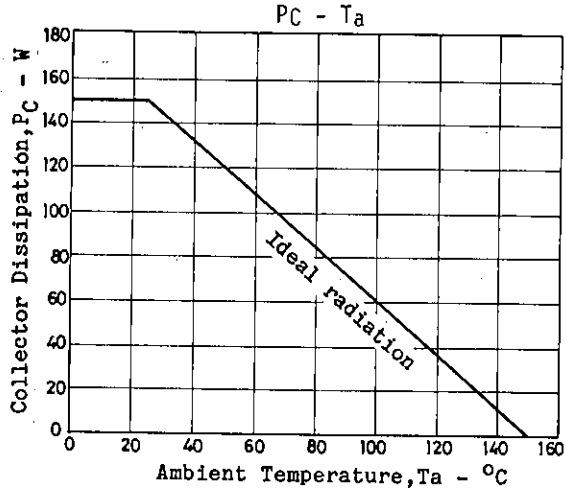

VCE(sat) - IC
IC/IB=20
Ta=-40℃
25℃
120℃
Collector-to-Emitter Saturation Voltage, VCE(sat) - A
Collector Current, IC - A


VBE(sat) - IC
IC/IB=20
Ta=-40℃
25℃
120℃
Base-to-Emitter Saturation Voltage, VBE(sat) - V
Collector Current, IC - A


Switching Time - IC
Vcc=200V
IC=20A
IB1=1A
R load
tstg
tf
Switching Time - μs
Base Current, IB2 - A


Switching Time - IC
Vcc=200V
IC=20 IB1
=-5 IB2
R load
tstg
tf
Switching Time - μs
Collector Current, IC - A


Forward Bias A S O
ICP
IC
100μs
500μs
1ms
10ms
DC operation
Single pulse
Tc=25℃
Collector Current, IC - A
Collector-to-Emitter Voltage, VCE - V



■ No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.

■ Anyone purchasing any products described or contained herein for an above-mentioned use shall:
① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use:
② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.

■ Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.