Ordering number:EN751C

NPN Epitaxial Planar Silicon Darlington Transistor

2SD1111

Driver Applications

Applications

· Motor drivers, printer hammer drivers, relay drivers, voltage regulator control.

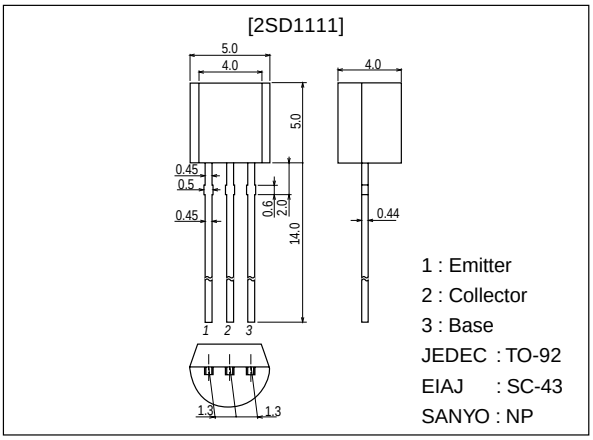
Features

· High DC Current Gain (5000 or greater).
· Large current capacity and wide ASO.
· Low saturation voltage ($V_{CE(sat)}$=0.8V typ).

Package Dimensions

unit:mm

2003B



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		80	V
Collector-to-Emitter Voltage	V_{CEO}		50	V
Emitter-to-Base Voltage	V_{EBO}		10	V
Collector Current	I_C		0.7	A
Collector Current (Pulse)	I_{CP}		2	A
Collector Dissipation	P_C		600	mW
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=40V, I_E=0			0.1	µA
Emitter Cutoff Current	I_{EBO}	V_{EB}=8V, I_C=0			0.1	µA
DC Current Gain	$h_{FE}1$	V_{CE}=2V, I_C=50mA	5000			
	$h_{FE}2$	V_{CE}=2V, I_C=500mA	4000			
Gain-Bandwidth Product	f_T	V_{CE}=5V, I_C=50mA		200		MHz
Output Capacitance	C_{ob}	V_{CB}=10V, f=1MHz		10		pF

Continued on next page.

SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

Continued from preceding page.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=100mA, I_B=0.1mA		0.8	1.2	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=100mA, I_B=0.1mA		1.3	2.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=10μA, I_E=0	80			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA, R_{BE}=∞	50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA, I_C=0	10			V

Electrical Connection