Ordering number: EN 2299A

SANYO

No.2299A

2SC3786

NPN Epitaxial Planar Type Silicon Transistor

DRIVER APPLICATIONS

Applications

- Suitable for use in switching of L load (motor drivers, printer hammer drivers, relay drivers)

Features

- High DC current gain
- Wide ASO
- On-chip zener diode of 60±10V between collector and base
- Uniformity in collector to base breakdown voltage
- Large inductive load handling capability

Absolute Maximum Ratings at Ta=25°C

				unit
Collector to Base Voltage	V_{CBO}		*50	V
Collector to Emitter Voltage	V_{CEO}		*50	V
Emitter to Base Voltage	V_{EBO}		6	V
Collector Current	I_C		3	A
Peak Collector Current	i_{cp}		6	A
Collector Dissipation	P_C		1.2	W
	P_C	Tc=25°C	20	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

*: On-chip zener diode (60±10V)

Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=40V, I_E=0			10	uA
Emitter Cutoff Current	I_{EBO}	V_{EB}=5V, I_C=0			2	mA
DC Current Gain	h_{FE}	V_{CE}=5V, I_C=1.5A	1000	4000		
Gain-Bandwidth Product	f_T	V_{CE}=5V, I_C=1.5A		180		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=1.5A, I_B=6mA		1.0	1.5	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=1.5A, I_B=6mA			2.0	V
Inductive Load Handling Capability	E s/b	L=100mH, R_{BE}=100ohms	25			mJ
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=100uA, I_E=0	50	60	70	V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA, R_{BE}=∞	50	60	70	V

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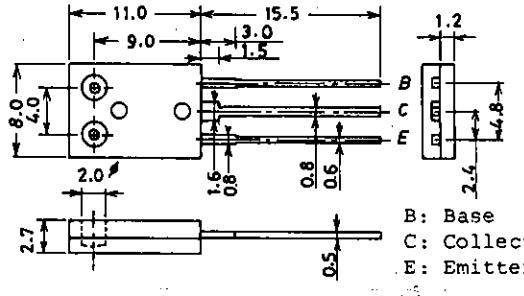
Package Dimensions 2043A
(unit: mm)



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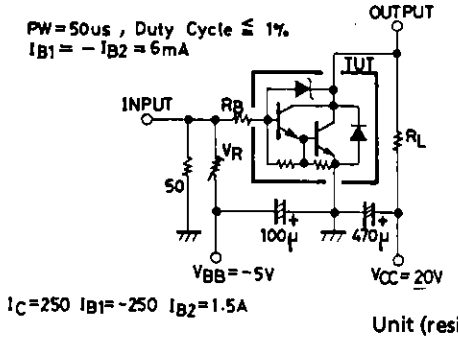
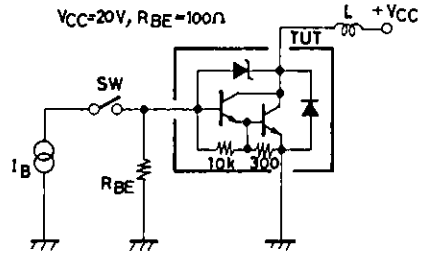
Continued from preceding page.

			min	typ	max	unit
Turn-on Time	t_{on}	See specified Test Circuit.		0.2		us
Storage Time	t_{stg}	"		3.5		us
Fall Time	t_f	"		0.7		us

Switching Time Test Circuit



Es/b Test Circuit



Unit (resistance: Ω, capacitance: F)