

<b>SANYO</b>	No.2001A	<b>2SA1471/2SC3748</b>
		PNP/NPN Epitaxial Planar Silicon Transistors <b>60V/10A High-Speed Switching Applications</b>

**Applications**

- . Car-use inductance drivers, lamp drivers
- . Inverters drivers, converters (strobos, flashes, FLT lighting circuits)
- . Power amplifiers (high-power car stereos, motor control)
- . High-speed switching (switching regulators, drivers)

**Features**

- . Low saturation voltage
- . Excellent dependence of  $h_{FE}$  on current
- . Fast switching speed
- . Micaless package facilitating mounting

( ): 2SA1471

**Absolute Maximum Ratings at  $T_a=25^\circ\text{C}$**

			unit
Collector-to-Base Voltage	$V_{CB0}$	(-)80	V
Collector-to-Emitter Voltage	$V_{CE0}$	(-)60	V
Emitter-to-Base Voltage	$V_{EBO}$	(-)5	V
Collector Current	$I_C$	(-)10	A
Collector Current (Pulse)	$I_{CP}$	(-)12	A
Collector Dissipation	$P_C$	2	W
		$T_c=25^\circ\text{C}$	
Junction Temperature	$T_j$	30	W
Storage Temperature	$T_{stg}$	150	$^\circ\text{C}$
		-55 to 150	$^\circ\text{C}$

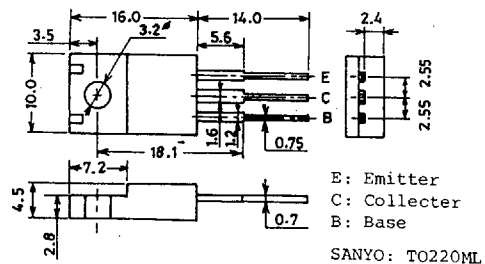
**Electrical Characteristics at  $T_a=25^\circ\text{C}$**

			min	typ	max	unit
Collector Cutoff Current	$I_{CB0}$	$V_{CB}=(-)40\text{V}, I_E=0$			(-)0.1	mA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=(-)4\text{V}, I_C=0$			(-)0.1	mA
DC Current Gain	$h_{FE}$	$V_{CE}=(-)2\text{V}, I_C=(-)1\text{A}$	70*		280*	
Gain Bandwidth Product	$f_T$	$V_{CE}=(-)5\text{V}, I_C=(-)1\text{A}$		100		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)5\text{A}, I_B=(-)0.25\text{A}$			(-)0.4	V

Continued on next page.

**Package Dimensions 2041**

(unit:mm)



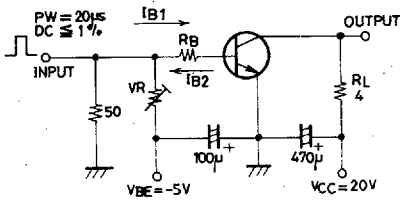
Continued from preceding page.

		min	typ	max	unit
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$ $I_C=(-)1mA, I_E=0$	(-)80			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$ $I_C=(-)1mA, R_{BE}=\infty$	(-)60			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$ $I_E=(-)1mA, I_C=0$	(-)5			V
Turn-ON Time	$t_{on}$ See specified Test Circuit.	0.1			$\mu s$
Storage Time	$t_{stg}$ "	0.5			$\mu s$
Fall Time	$t_f$ "	0.1			$\mu s$

\*:The 2SA1471/2SC3748 are classified by 1A  $h_{FE}$  as follows:

70	Q	140	100	R	200	140	S	280
----	---	-----	-----	---	-----	-----	---	-----

Switching Time Test Circuit



(For PNP, the polarity is reversed.)

$20I_{B1} = -20I_{B2} = I_C = 5A$

Unit (resistance : Ω, capacitance : F)

