

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

**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  $T_a=25^{\circ}C$**

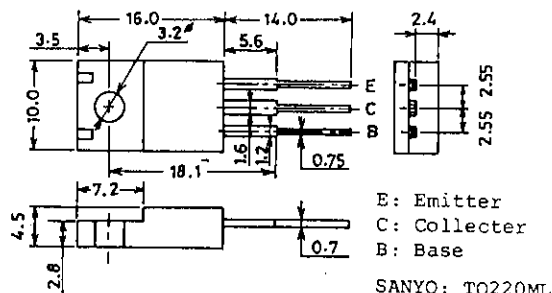
			unit
Collector-to-Base Voltage	$V_{CB0}$	(-)80	V
Collector-to-Emitter Voltage	$V_{CEO}$	(-)60	V
Emitter-to-Base Voltage	$V_{EBO}$	(-)5	V
Collector Current	$I_C$	(-)10	A
Collector Current (Pulse)	$I_{CP}$	(-)12	A
Collector Dissipation	$P_C$	2	W
		$T_c=25^{\circ}C$	30
Junction Temperature	$T_j$	150	$^{\circ}C$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

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

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

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**Package Dimensions 2041**  
(unit:mm)



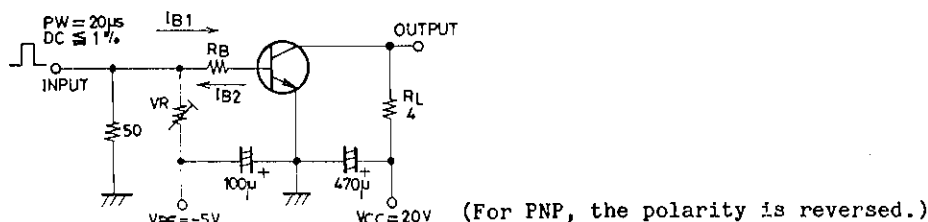
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			min	typ	max	unit
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-) 1mA, I_E = 0$	(-)80			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-) 1mA, R_{BE} = \infty$	(-)60			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-) 1mA, I_C = 0$	(-)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:

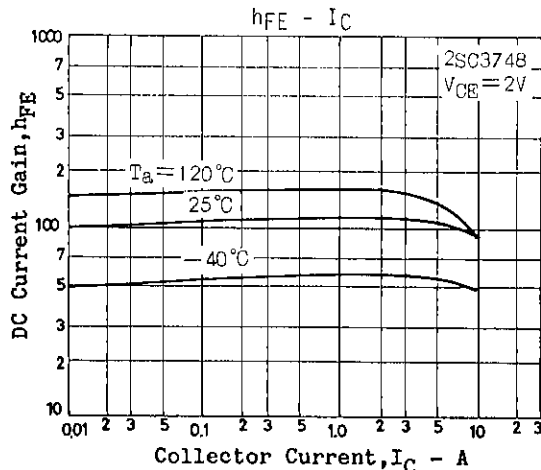
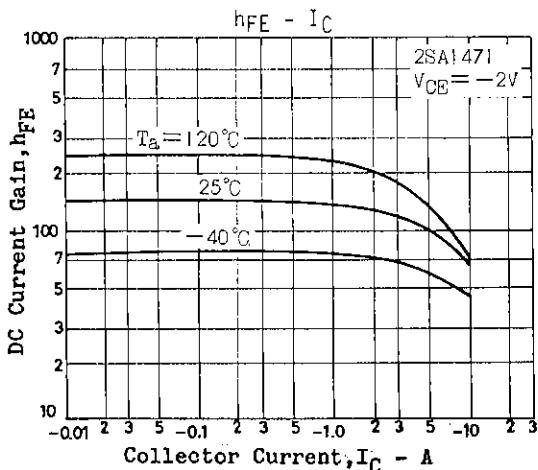
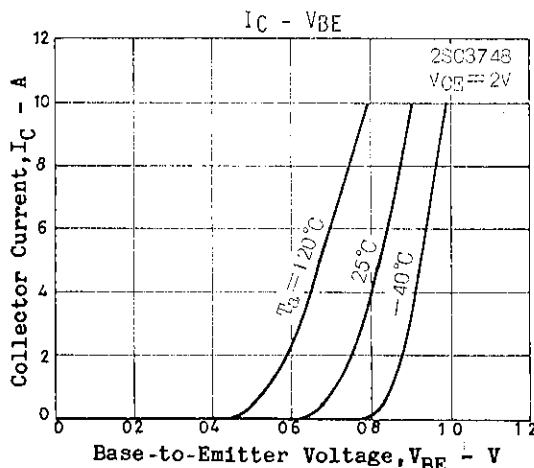
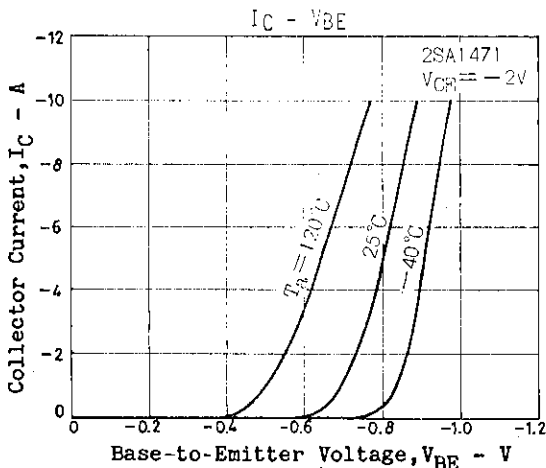
70	Q	140	100	R	200	140	S	280
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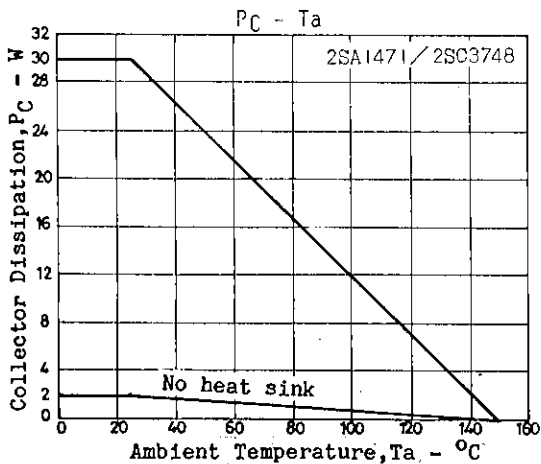
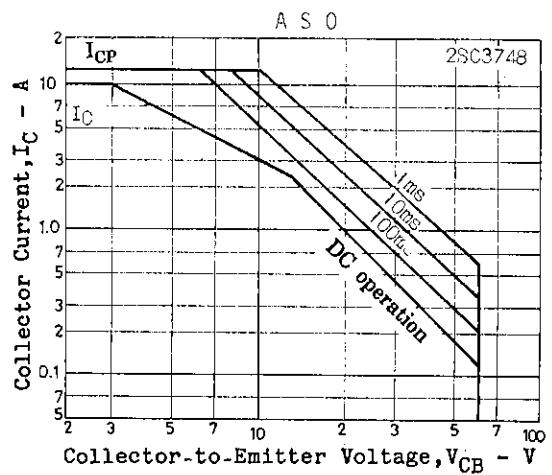
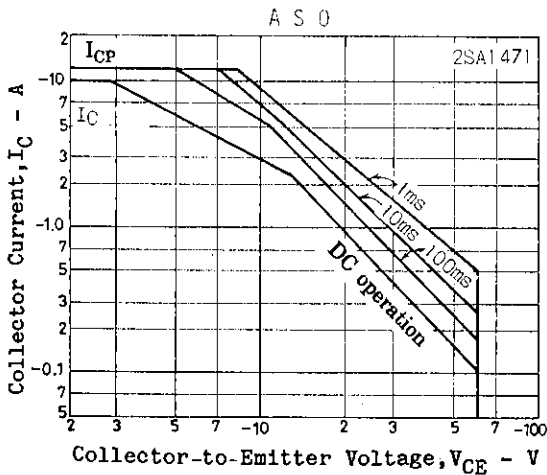
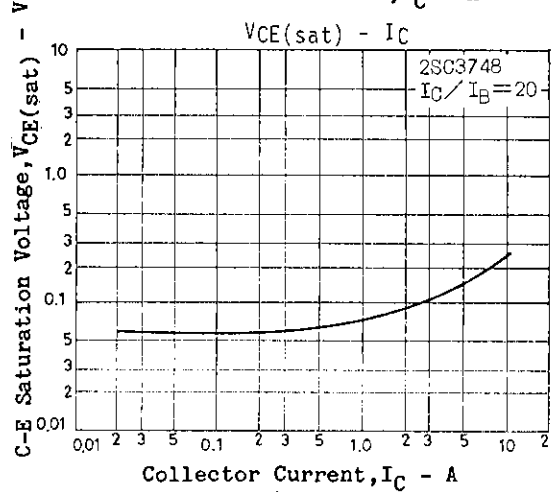
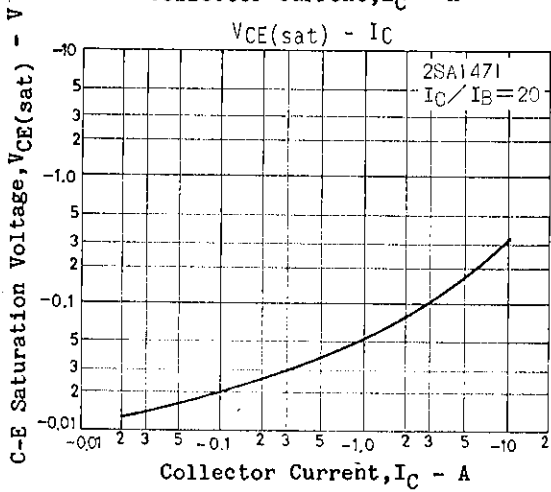
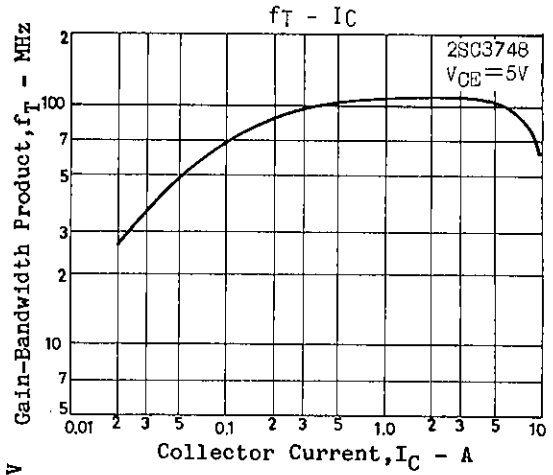
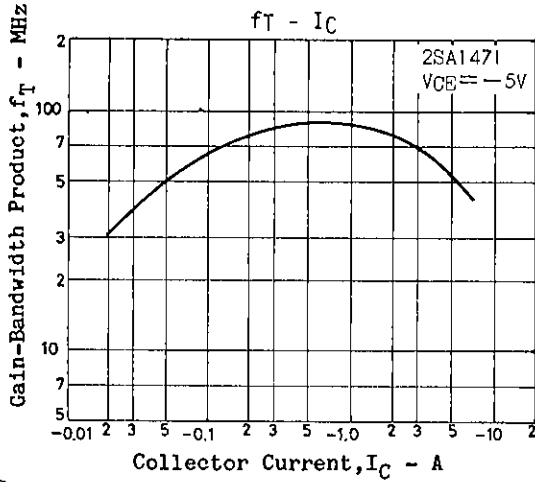
Switching Time Test Circuit



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

Unit (resistance:  $\Omega$ , capacitance: F)





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