

**2SA1470/2SC3747**  
 PNP/NPN Epitaxial Planar Silicon Transistors  
**60V/7A High-Speed Switching Applications**

**Applications**

- . Inductance, lamp drivers.
- . Inverters, 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 time.
- . Micaless package facilitating mounting.

( ): 2SA1470

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

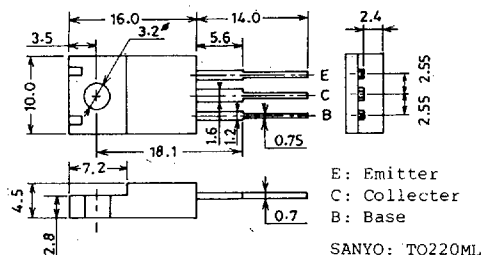
			unit
Collector-to-Base Voltage	$V_{CB0}$	(-)80	V
Collector-to-Emitter Voltage	$V_{CEO}$	(-)60	V
Emitter-to-Base Voltage	$V_{EBO}$	(-)5	V
Collector Current	$I_C$	(-)7	A
Collector Current (Pulse)	$I_{CP}$	(-)10	A
Collector Dissipation	$P_C$	2	W
		25	W
		150	$^{\circ}C$
Junction Temperature	$T_j$		$^{\circ}C$
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	$V_{CE(sat)}$	$I_C=(-)3.5A, I_B=(-)0.175A$		(-)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 2SA1470/2SC3747 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**

