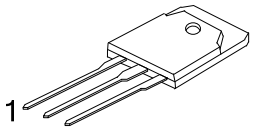
2SA1693

Preliminary ***PNP EPITAXIAL SILICON TRANSISTOR***

SILICON PNP EPITAXIAL PLANAR TRANSISTOR



TO-3P

■ DESCRIPTION

The UTC **2SA1693** is a silicon PNP epitaxial planar transistor, it uses UTC's advanced technology to provide the customers with high DC current gain and high collector-base breakdown voltage, etc.

The UTC **2SA1693** is suitable for audio and general purpose, etc.

■ FEATURES

* High DC current gain
* High collector-base breakdown voltage

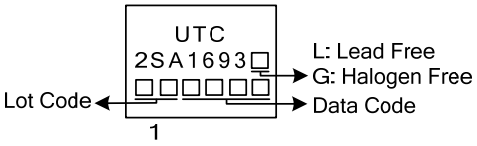
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
2SA1693L-x-T3P-T	2SA1693G-x-T3P-T	TO-3P	B	C	E	Tube

Note: Pin Assignment: B: Base C: Collector E: Emitter

2SA1693L-x-T3P-T (1)Packing Type (2)Package Type (3)Rank (4)Green Package	(1) T: Tube (2) T3P: TO-3P (3) x: reference to Classification of h_{FE} (4) L: Lead Free, G: Halogen Free and Lead Free

■ MARKING



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■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Base Voltage	V_{CBO}	-80	V
Collector-Emitter Voltage	V_{CEO}	-80	V
Emitter-Base Voltage	V_{EBO}	-6	V
Collector Current	I_C	-6	A
Base Current	I_B	-3	A
Collector Power Dissipation (T_C=25°C)	Pc	60	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 ~150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

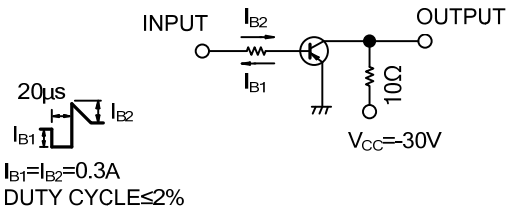
■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut-Off Current		I_{CBO}	V_{CB}=-80V			-10	μA
Emitter Cut-Off Current		I_{EBO}	V_{EB}=-6V			-10	μA
Collector-Emitter Breakdown Voltage		BV_{CEO}	I_C=-50mA	-80			V
DC Current Gain		h_{FE}	V_{CE}=-4V, I_C=-2A	50		180	
Collector-Emitter Saturation Voltage		$V_{CE(SAT)}$	I_C=-2A, I_B=-0.2A			-1.5	V
Current Gain Bandwidth Product		f_T	V_{CE}=-12V, I_E=0.5A		20		MHz
Output Capacitance		Cob	V_{CB}=-10V, f=1MHz		150		pF
Switching time	Turn-on time	t_{ON}	V_{CC}=-30V, R_L=10Ω, I_C=-3A, I_{B1}=0.3A I_{B2}=0.3A		0.18		μS
	Storage time	t_S			1.10		μS
	Fall time	t_F			0.21		μS

■ CLASSIFICATION OF h_{FE}

RANK	O	P	Y
RANGE	50~100	70~140	90~180

■ TEST CIRCUIT



$I_{B1}=I_{B2}=0.3A$
DUTY CYCLE≤2%

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