

◆Si NPN

◆RoHS COMPLIANT

1. APPLICATION

Charger、Emergency lamp and
Electric toy control circuit

2. FEATURES

- Features of good high temperature
- High switching speed

3. PACKAGE

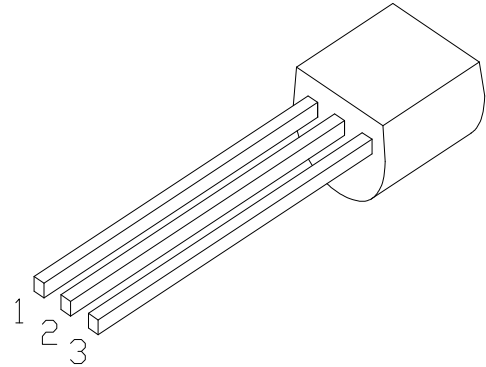
TO-92

4. Electrical Characteristics

4.1 Absolute Maximum Ratings

$T_{amb}=25^{\circ}\text{C}$ unless specified

PARAMETER		SYMBOL	VALUE	UNIT
Collector-Base Voltage		V_{CBO}	60	V
Collector-Emitter Voltage		V_{CEO}	40	V
Emitter- Base Voltage		V_{EBO}	5	V
Collector Current		I_C	2	A
Power Dissipation	$T_a=25^{\circ}\text{C}$	P_{tot}	0.8	W
	$T_c=25^{\circ}\text{C}$		12	
Junction Temperature		T_j	150	$^{\circ}\text{C}$
Storage Temperature		T_{stg}	-55~150	$^{\circ}\text{C}$



1 Emitter(E) 2 Collector(C) 3 Base(B)

4.2 Electrical Parameter

$T_{amb}=25^{\circ}\text{C}$ unless specified

PARAMETER	SYMBOL	TEST CONDITION	VALUE			UNIT
			MIN	TYP	MAX	
Collector-Base Voltage	BV_{CBO}	$I_C=1\text{mA}, I_E=0$	60			V
Collector-Emitter Voltage	BV_{CEO}	$I_C=1\text{mA}, I_B=0$	40			V
Emitter-Base Voltage	BV_{EBO}	$I_E=1\text{mA}, I_C=0$	5			V
Collector-Base Cutoff Current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$			10	μA
Collector-Emitter Cutoff Current	I_{CEO}	$V_{CE}=40\text{V}, I_B=0$			20	μA
Emitter-Base Cutoff Current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$			10	μA
DC Current Gain	h_{FE}^*	$V_{CE}=3\text{V}, I_C=1\text{mA}$	100			
		$V_{CE}=3\text{V}, I_C=300\text{mA}$	100		400	
Collector-Emitter Saturation Voltage	$V_{CE\text{ sat}}^*$	$I_C=2\text{A}, I_B=0.2\text{A}$			0.8	V
Base-Emitter Saturation Voltage	$V_{BE\text{ sat}}^*$	$I_C=2\text{A}, I_B=0.2\text{A}$			1.2	V
Typical Frequency	f_T	$V_{CE}=5\text{V}, I_C=100\text{mA}, f=10\text{MHz}$	50			MHz
*: Pulse test $t_p \leq 300\mu\text{s}, \delta \leq 2\%$						

5. Characteristic Curve

Fig1 Static Characteristic

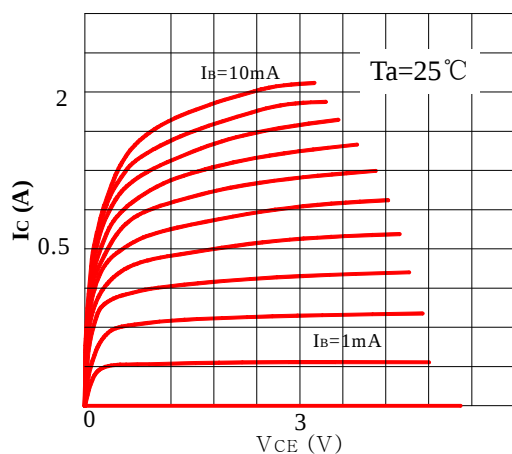


Fig2 $h_{FE}-I_C$

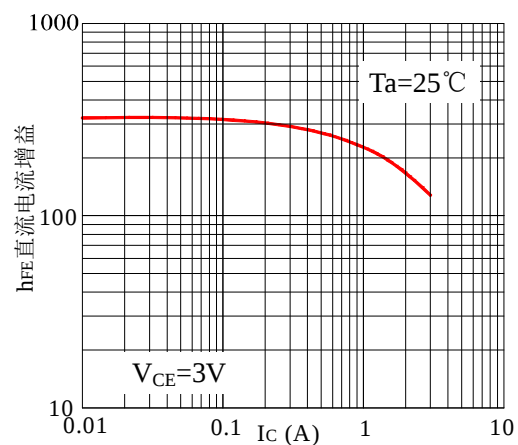


Fig3 $V_{CEsat}-I_C$

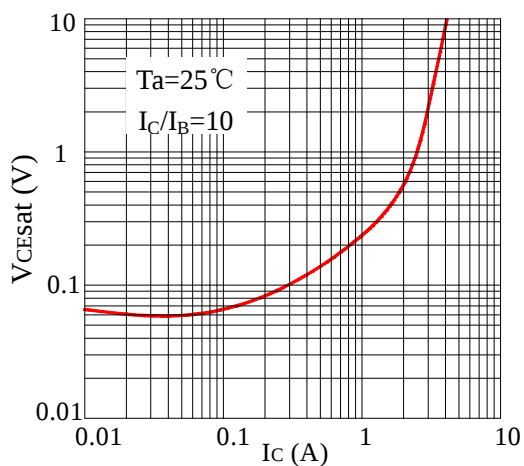
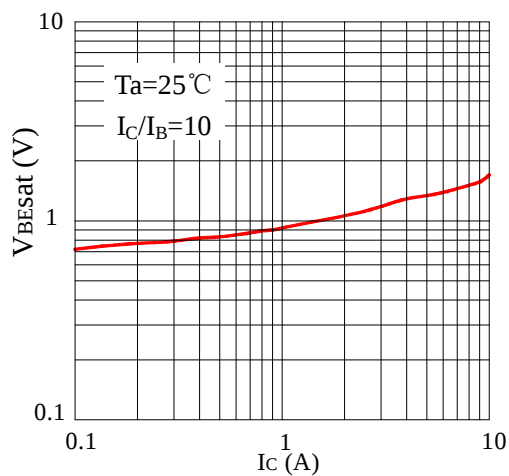


Fig4 $V_{BEsat}-I_C$



6. Package Dimentions(Unit: mm)

T0-92

