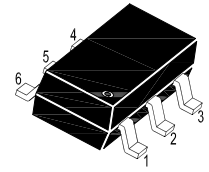
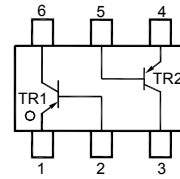


■ PNP Silicon Epitaxial Planar Transistor

for switching and amplifier applications



1. Emitter 2. Base 3. Collector
4. Emitter 5. Base 6. Collector

■ **Simplified outline(SOT-363)**

■ Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	60	V
Collector Emitter Voltage	$-V_{CEO}$	60	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	600	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain				
at $-V_{CE} = 10\text{ V}$, $-I_C = 0.1\text{ mA}$	h_{FE}	75	-	-
at $-V_{CE} = 10\text{ V}$, $-I_C = 1\text{ mA}$	h_{FE}	100	-	-
at $-V_{CE} = 10\text{ V}$, $-I_C = 10\text{ mA}$	h_{FE}	100	-	-
at $-V_{CE} = 10\text{ V}$, $-I_C = 150\text{ mA}$	h_{FE}	100	300	-
at $-V_{CE} = 10\text{ V}$, $-I_C = 500\text{ mA}$	h_{FE}	50	-	-
Collector Base Cutoff Current at $-V_{CB} = 50\text{ V}$	$-I_{CBO}$	-	100	nA
Collector Emitter Cutoff Current at $-V_{CE} = 30\text{ V}$	$-I_{CES}$	-	100	nA
Emitter Base Cutoff Current at $-V_{EB} = 3\text{ V}$	$-I_{EBO}$	-	100	nA
Collector Base Breakdown Voltage at $-I_C = 10\text{ }\mu\text{A}$	$-V_{(BR)CBO}$	60	-	V
Collector Emitter Breakdown Voltage at $-I_C = 10\text{ mA}$	$-V_{(BR)CEO}$	60	-	V
Emitter Base Breakdown Voltage at $-I_E = 10\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	5	-	V
Collector Emitter Saturation Voltage at $-I_C = 150\text{ mA}$, $-I_B = 15\text{ mA}$ at $-I_C = 500\text{ mA}$, $-I_B = 50\text{ mA}$	$-V_{CE(sat)}$	- -	0.4 1.6	V
Base Emitter Saturation Voltage at $-I_C = 150\text{ mA}$, $-I_B = 15\text{ mA}$ at $-I_C = 500\text{ mA}$, $-I_B = 50\text{ mA}$	$-V_{BE(sat)}$	- -	1.3 2.6	V
Transition Frequency at $-V_{CE} = 20\text{ V}$, $I_E = 50\text{ mA}$, $f = 100\text{ MHz}$	f_T	200	-	MHz
Collector Output Capacitance at $-V_{CB} = 10\text{ V}$, $f = 100\text{ KHz}$	C_{ob}	-	8	pF
Turn-on Time at $-V_{CC} = 30\text{ V}$, $-V_{BE(OFF)} = 1.5\text{ V}$, $-I_C = 150\text{ mA}$, $-I_{B1} = 15\text{ mA}$	t_{on}	-	50	ns
Delay Time at $-V_{CC} = 30\text{ V}$, $-V_{BE(OFF)} = 1.5\text{ V}$, $-I_C = 150\text{ mA}$, $-I_{B1} = 15\text{ mA}$	t_d	-	10	ns
Rise Time at $-V_{CC} = 30\text{ V}$, $-V_{BE(OFF)} = 1.5\text{ V}$, $-I_C = 150\text{ mA}$, $-I_{B1} = 15\text{ mA}$	t_r	-	40	ns
Turn-off Time at $-V_{CC} = 30\text{ V}$, $-I_C = 150\text{ mA}$, $I_{B1} = I_{B2} = -15\text{ mA}$	t_{off}	-	100	ns
Storage Time at $-V_{CC} = 30\text{ V}$, $-I_C = 150\text{ mA}$, $I_{B1} = I_{B2} = -15\text{ mA}$	t_{stg}	-	80	ns
Fall Time at $-V_{CC} = 30\text{ V}$, $-I_C = 150\text{ mA}$, $I_{B1} = I_{B2} = -15\text{ mA}$	t_f	-	30	ns

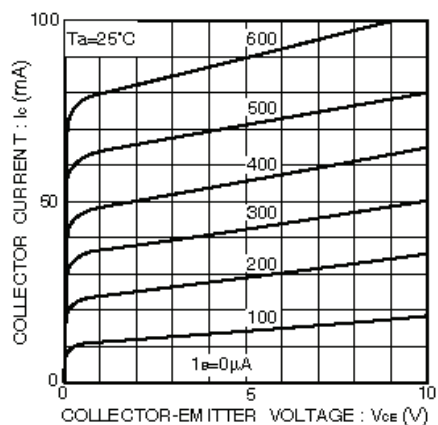


Fig. 1 Grounded emitter output characteristics

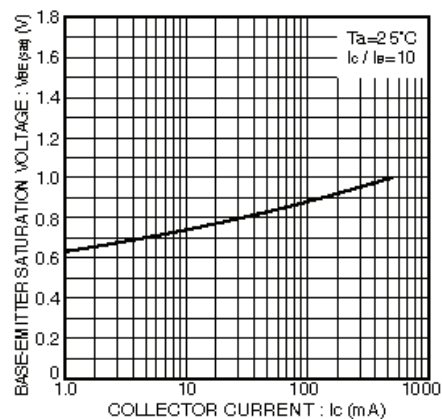


Fig. 2 Base-emitter saturation voltage vs. collector current

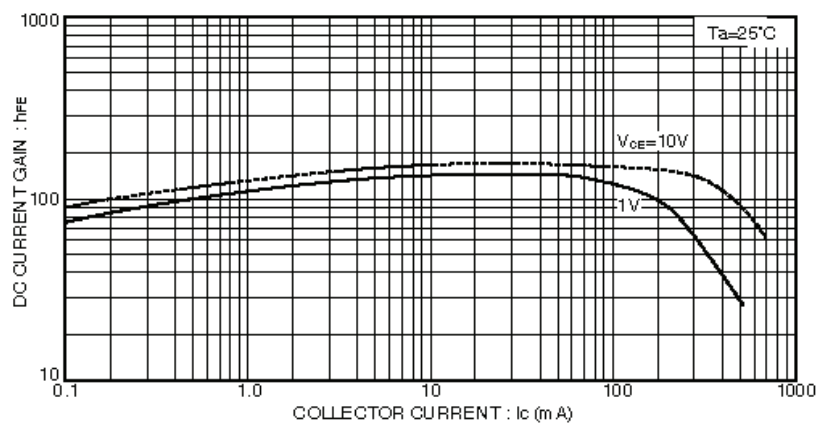


Fig. 3 DC current gain vs. collector current (I)

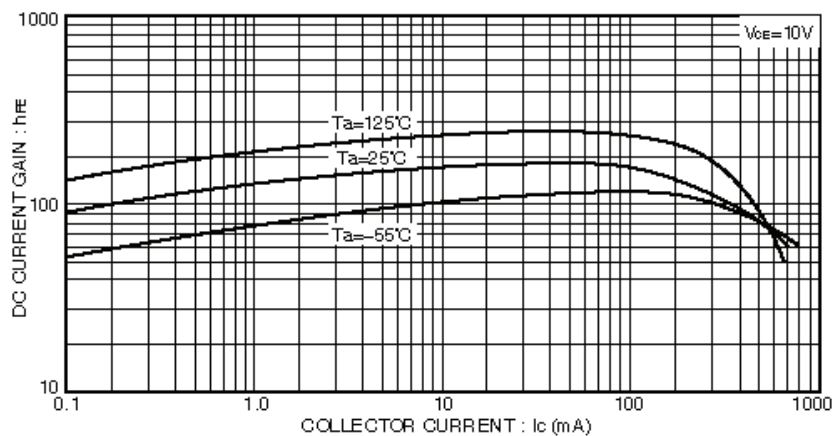


Fig. 4 DC current gain vs. collector current (II)

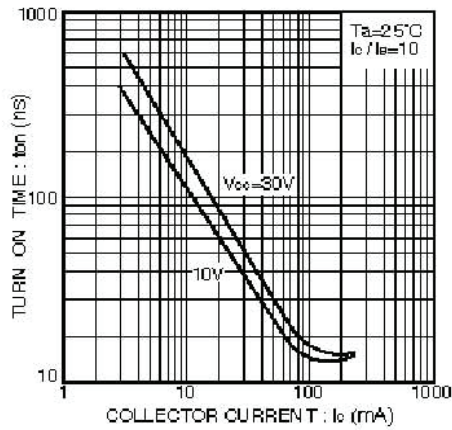


Fig.5 Turn-on time vs. collector current

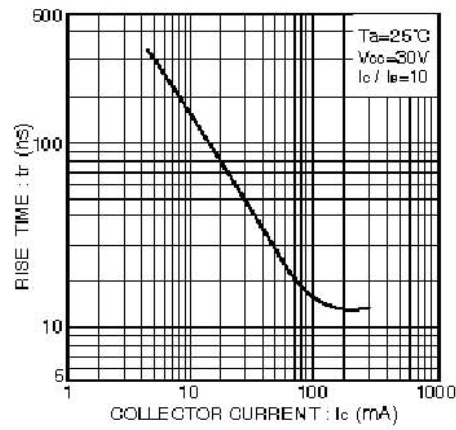


Fig.6 Rise time vs. collector current

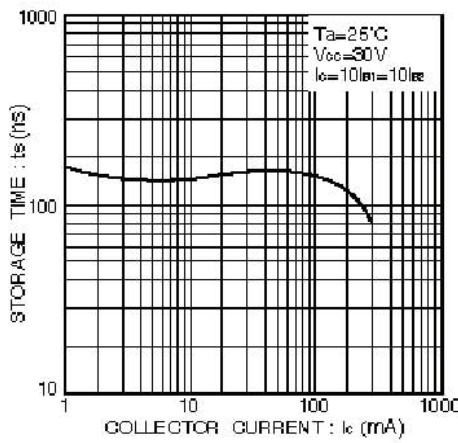


Fig.7 Storage time vs. collector current

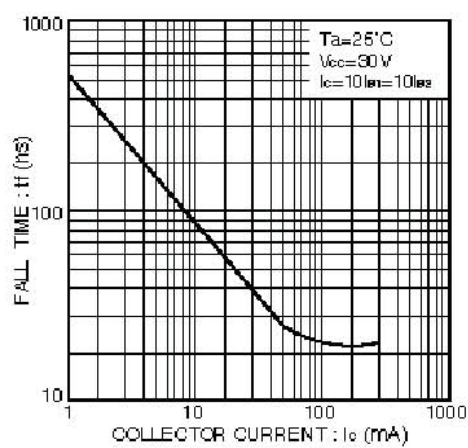


Fig.8 Fall time vs. collector current

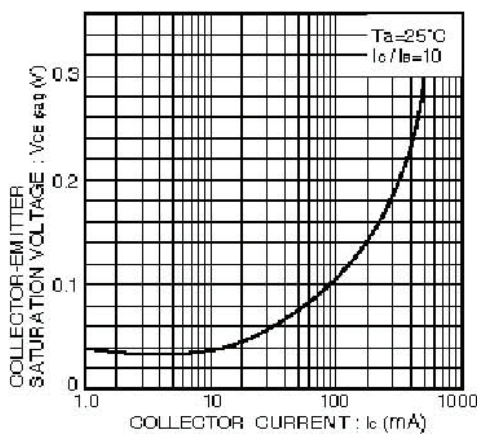


Fig.9 Collector-emitter saturation voltage vs. collector current

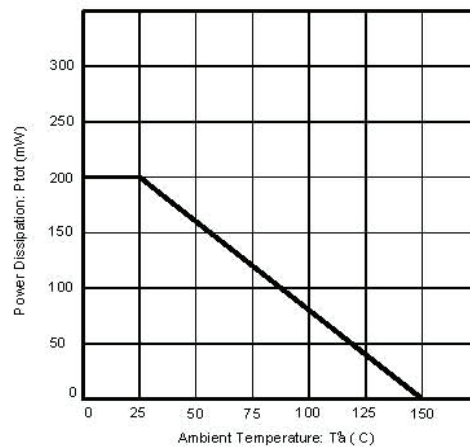
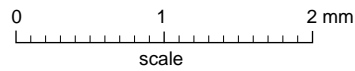
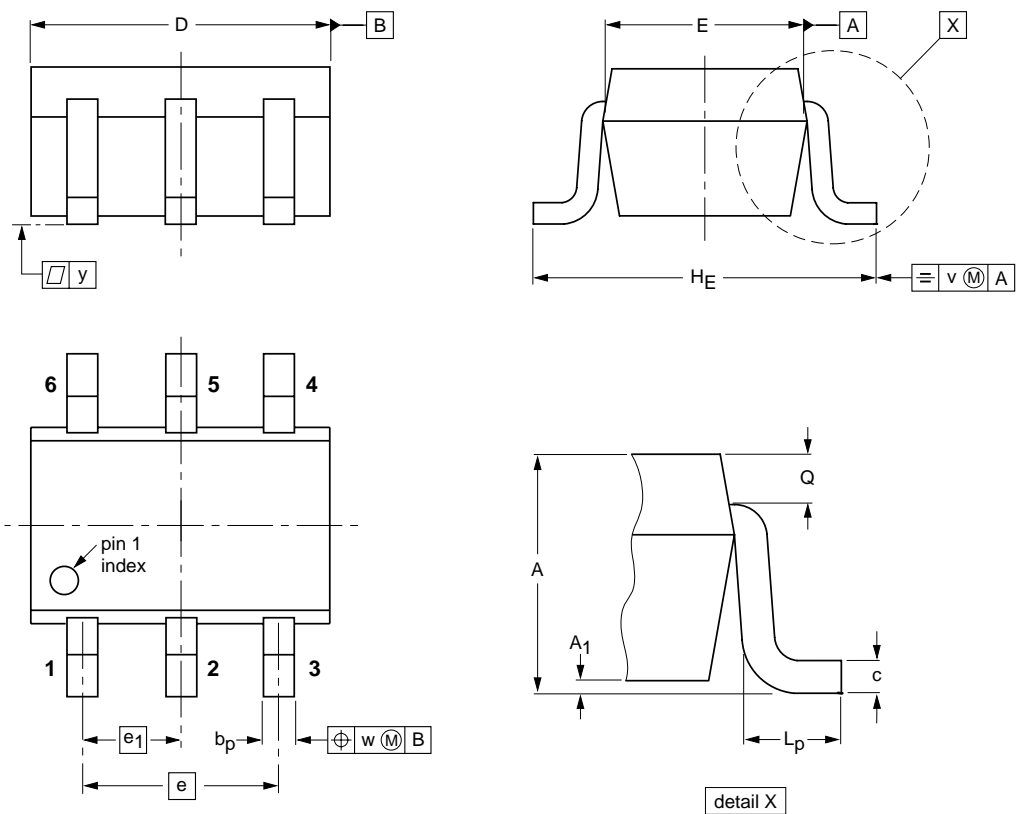


Fig.10 Power Dissipation vs Ambient Temperature

■ SOT-363



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w	y
mm	1.1 0.8	0.1	0.30 0.20	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.25 0.15	0.2	0.2	0.1