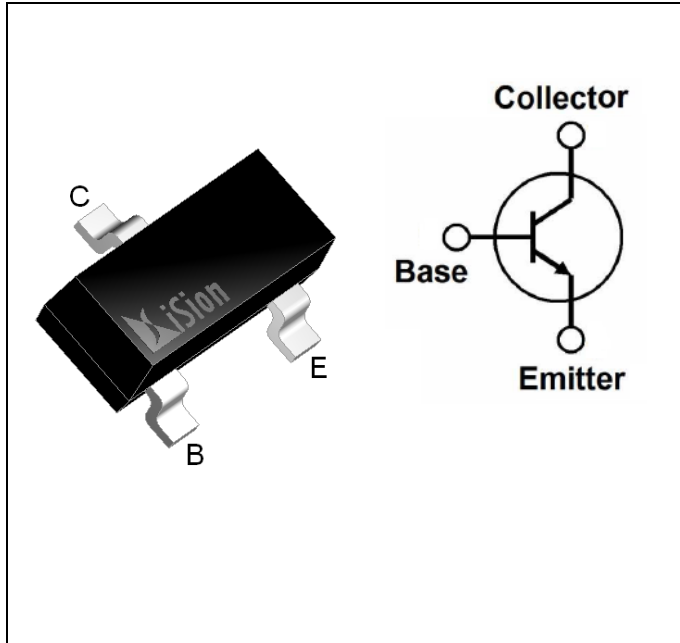


PLASTIC-ENCAPSULATE TRANSISTORS NPN Silicon



FEATURES

- High DC Current Gain : $h_{FE}=200(\text{Typ.})$ $V_{CE}=6\text{V}$, $I_C=1\text{mA}$
- High Voltage : $V_{CEO} = 50\text{V}$

MECHANICAL DATA

- Available in SOT-23 Package
- Solderability : MIL-STD-202, Method 208
- Full RoHS Compliance

ORDERING INFORMATION

PART NUMBER	PACKAGE	SHIPPING	MARKING
2SC1623□-△-T3	SOT-23	Tape Reel	See Classification Of h_{FE}

Notes:

1. □: none is for Lead Free package;
"G" is for Halogen Free package.
2. △: Rank Of h_{FE} ; See Classification Of h_{FE}
3. Marking Code: yww: y: Year code; ww: Week code.

THERMAL DATA

PARAMETER	SYMBOL	VALUES	UNIT
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	625	$^{\circ}\text{C}/\text{W}$

Notes:

4. The value of $R_{\theta JA}$ is measured with device mounted on 1 in² FR-4 board with 2 oz copper.

ABSOLUTE MAXIMUM RATINGS
 $T_A = 25^\circ\text{C}$, unless otherwise noted.

PARAMETER	SYMBOL	VALUES	UNIT
Collector-Emitter Voltage	V_{CEO}	50	V
Collector-Base Voltage	V_{CBO}	60	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	100	mA
Power Dissipation @ $T_A = 25^\circ\text{C}$	P_C	200	mW
Operating Junction Temperature	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS
 $T_A = 25^\circ\text{C}$, unless otherwise noted.

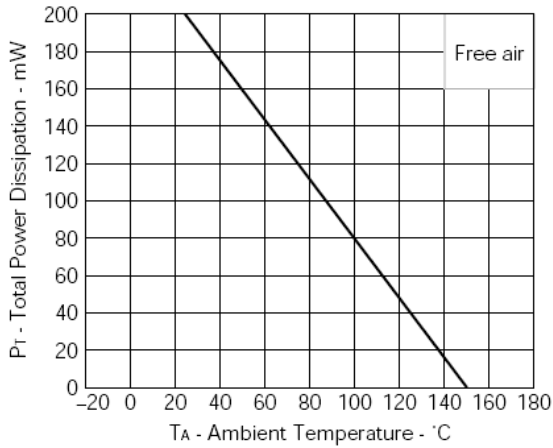
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$	50			V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\ \mu\text{A}, I_E = 0$	60			V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\ \mu\text{A}, I_C = 0$	5			V
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$			0.1	μA
Collector Cut-off Current	I_{CBO}	$V_{CB} = 60\text{V}, I_E = 0$			0.1	μA
ON CHARACTERISTICS						
DC Current Gain	h_{FE}	$I_C = 1\text{mA}, V_{CE} = 6\text{V}$	90	200	600	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 100\text{mA}, I_B = 10\text{mA}$			0.3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 100\text{mA}, I_B = 10\text{mA}$			1	V
SMALL-SIGNAL CHARACTERISTICS						
Transition Frequency	f_T	$I_C = 10\text{mA}, V_{CE} = 6\text{V}$		250		MHz

CLASSIFICATION OF h_{FE}

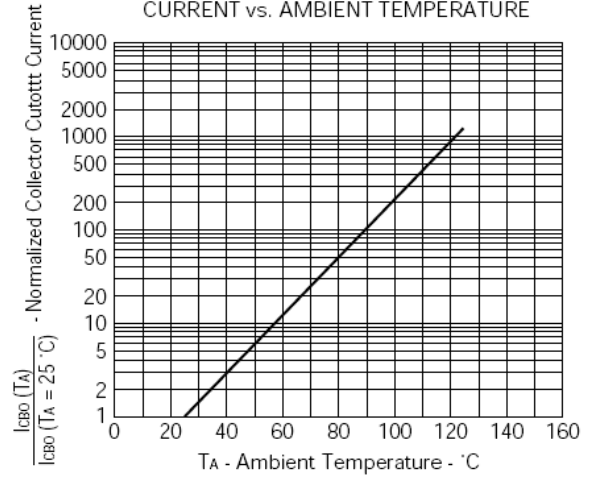
RANK	L4	L5	L6	L7
h_{FE} RANGE	90~180	135~270	200~400	300~600

TYPICAL PERFORMANCE CHARACTERISTICS

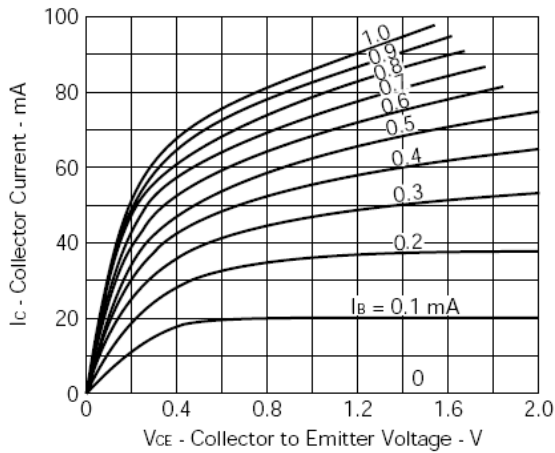
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



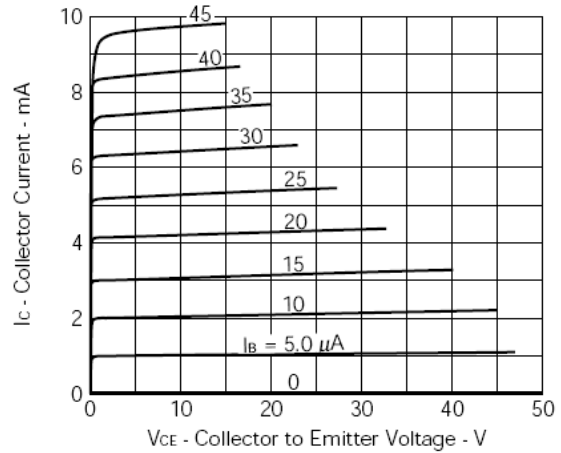
NORMALIZED COLLECTOR CUTOFF CURRENT vs. AMBIENT TEMPERATURE



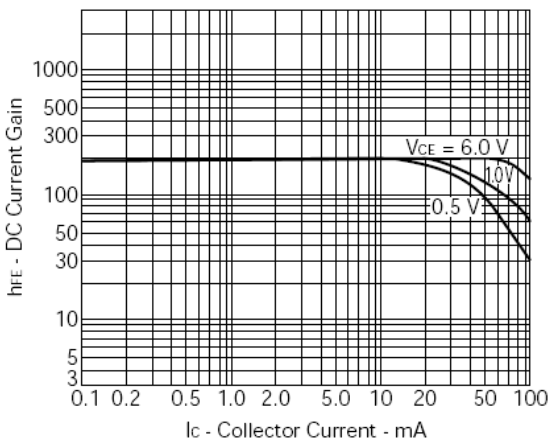
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



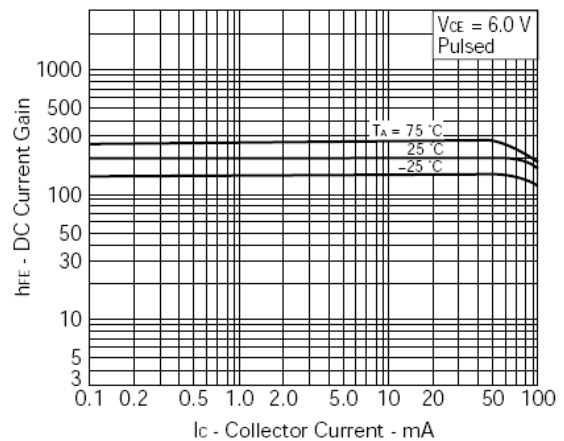
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



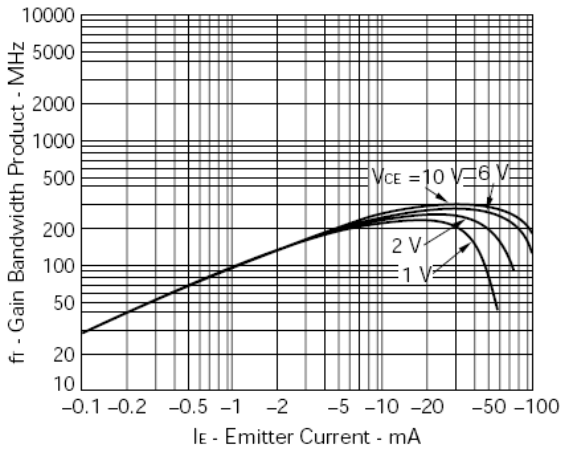
DC CURRENT GAIN vs. COLLECTOR CURRENT



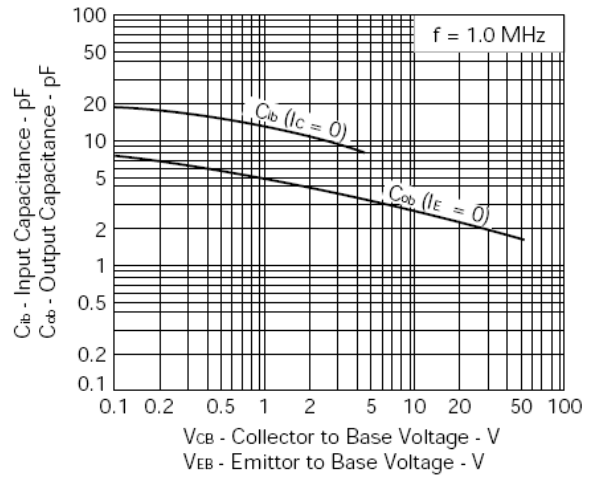
DC CURRENT GAIN vs. COLLECTOR CURRENT



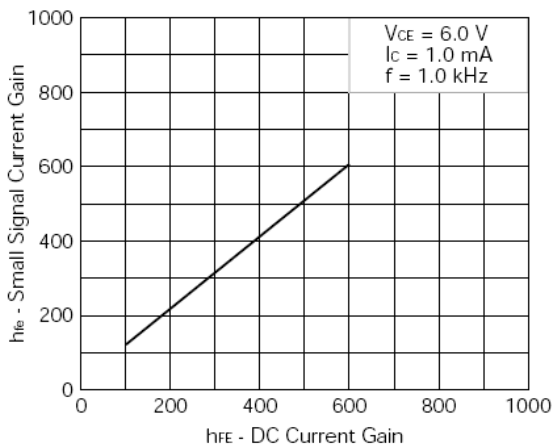
GAIN BANDWIDTH PRODUCT vs. EMITTER CURRENT



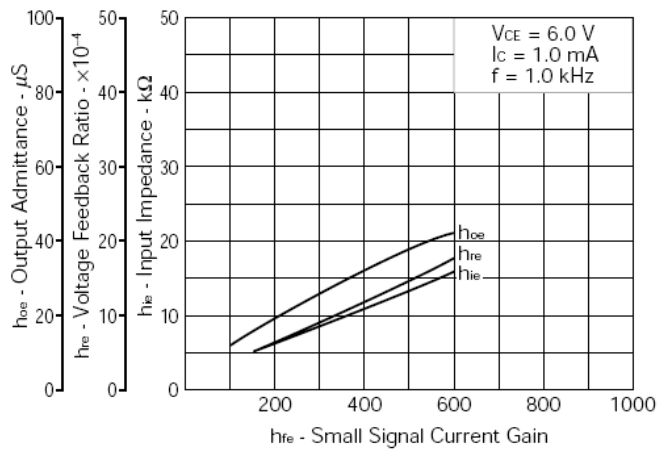
INPUT AND OUTPUT CAPACITANCE vs. REVERSE VOLTAGE



SMALL SIGNAL CURRENT GAIN vs. DC CURRENT GAIN



INPUT IMPEDANCE VOLTAGE FEEDBACK RATIO AND OUTPUT ADMITTANCE vs. SMALL SIGNAL CURRENT GAIN



PHYSICAL DIMENSION

Unit : Inch (Millimeter)

