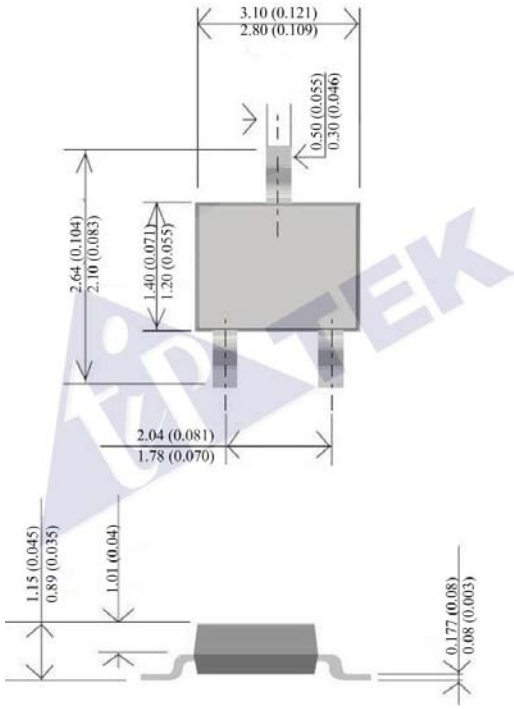
GENERAL PURPOSE TRANSISTORS NPN Silicon



CASE：SOT-23

DIMENSIONS IN MILLIMETERS AND (INCHES)

FEATURES

- COLLECTOR CURRENT I_C = 150 mA
- LOW COLLECTOR-EMITTER SATURATION VOLTAGE BOTH NORMAL AND PB−FREE PACKAGES ARE AVAILABLE
- Pb FREE PRODUCT ARE AVAILABLE :98.5% SN ABOVE

MECHANICAL DATA

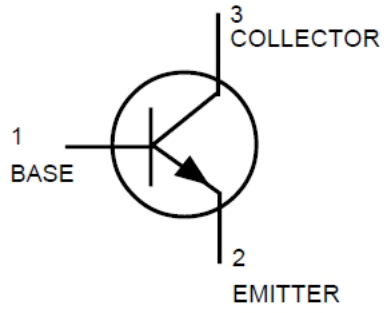
- CASE：SOT-23
- TERMINALS：SOLDERABLE PER MIL-STD-202, METHOD 208
- APPROX. WEIGHT:0.008 GRAM
- Pb Free:2SC2412KQ~2SC2412S
  Halogen Free: 2SC2412KQ-H~2SC2412S-H

MAXIMUM RATINGS

RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED.

PATING	SYMBOL	2SC2412K Series	UNITS
COLLECTOR − EMITTER VOLTAGE	V_{CEO}	50	V
COLLECTOR − BASE VOLTAGE	V_{CBO}	60	V
EMITTER − BASE VOLTAGE	V_{EBO}	7.0	V
COLLECTOR CURRENT − CONTINUOUS	I_C	150	mA
COLLECTOR POWER DISSIPATION	P_C	200	mW
OPERATING AND STORAGE JUNCTION TEMPERATURE RANGE	T_{STG}	- 55 TO +150	℃

NOTE:1.Indicates Data in addition to JEDEC Requirements.



ELECTRICAL CHARACTERISTICS

ELECTRICAL CHARACTERISTICS (A_T T_A =25°C UNLESS OTHERWISE NOTED)				
CHARACTERISTIC	SYMBOL	MIN	MAX	UNITS
OFF CHARACTERISTICS				
Collector−Emitter Breakdown Voltage (I_C = 1 mA)	$V_{(BR)CEO}$	50	−	V
Collector−Base Breakdown Voltage (I_C = 50 μA)	$V_{(BR)CBO}$	60	−	V
Emitter−Base Breakdown Voltage (I_E = 50 μA)	$V_{(BR)EBO}$	7.0	−	V
Emitter Cut-off Current (V_{EB} = 7 V)	I_{EBO}	−	0.1	μA
Collector Cut-off Current (V_{CB} = -60V, I_E= 0)	I_{CBO}	−	0.1	μA
ON CHARACTERISTICS				
DC Current Gain (I_C = 1.0 mA, V_{CE} = 6 V)	h_{FE}	120	560	−
Collector−Emitter Saturation Voltage (I_C = 50 mA, I_B = 5 mA)	$V_{CE(Sat)}$	−	0.4	V
SMALL−SIGNAL CHARACTERISTICS				
Current−Gain−Bandwidth Product (I_E =-2mA,V_{CE} =12V,f = 30 MHz)	f_T	180 (TYP)		MHz
Collector output capacitance (V_{CB}=12V,I_E=0A,f=1MHz)	C_{ob}	2.0 (TYP)	3.5	pF

NOTE: 2.Pulse Test: Pulse Width ≦300 μs; Duty Cycle ≦2%.

h_{FE} VALUES ARE CLASSIFIED AS FOLLOWS:

Rank	Q	R	S
RANGE	120-270	180-390	270-560

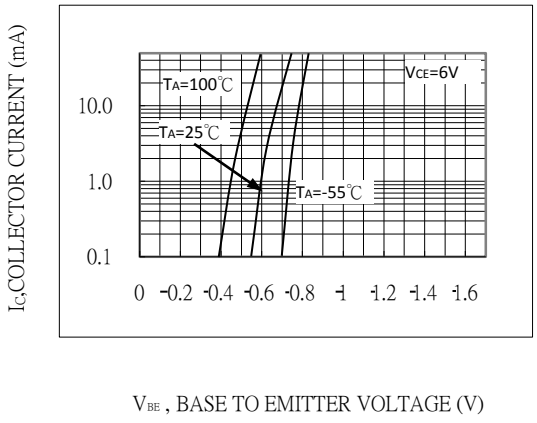


Fig 1.GROUNDED EMITTER OUTPUT CHARACTERISTICS

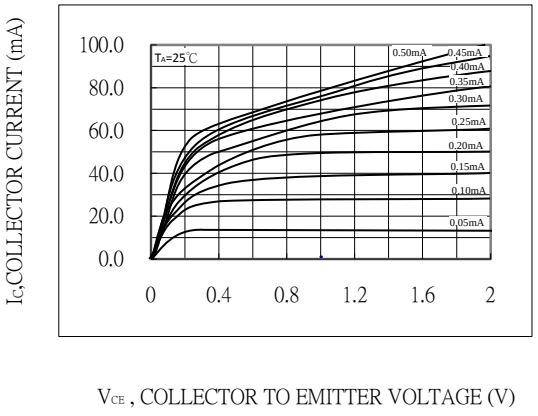


Fig 2.GROUNDED EMITTER OUTPUT CHARACTERISTICS

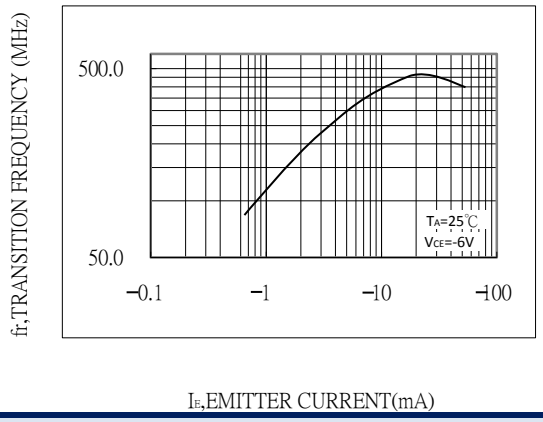


Fig 5.GAIN BANDWIDTH PRODUCT VS. EMITTER CURRENT

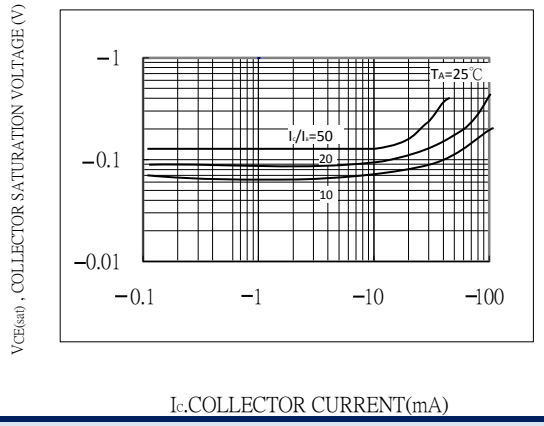


Fig 4.COLLECTOR-EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT

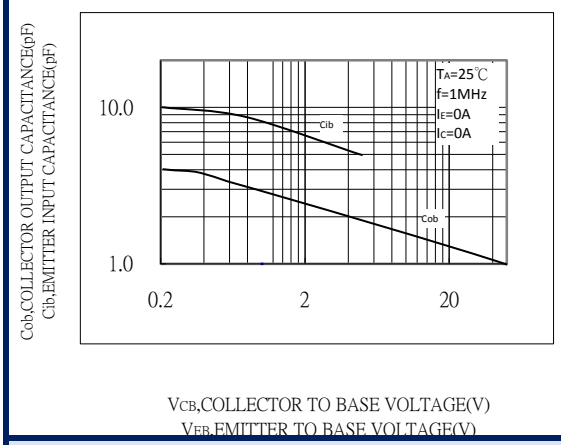


Fig 5.COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR-BASE VOLTAGE EMITTER INPUT CAPACITANCE VS. EMITTER-BASE VOLTAGE