



# 2SC2411K

## NPN GENERAL PURPOSE SWITCHING TRANSISTOR

<b>VOLTAGE</b>	<b>32 Volts</b>	<b>POWER</b>	<b>225mW</b>	<b>SOT-23</b>	Unit: inch ( mm )
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### FEATURES

- NPN epitaxial silicon, planar design
- Collector-emitter voltage  $V_{CE}=32V$
- Collector current  $I_C=500mA$
- In compliance with EU RoHS 2002/95/EC directives

### MECHANICAL DATA

Case : SOT-23 plastic  
 Terminals : Solderable per MIL-STD-750, Method 2026  
 Approx Weight : 0.008 gram  
 Marking : 241

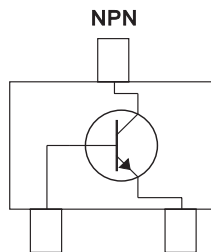
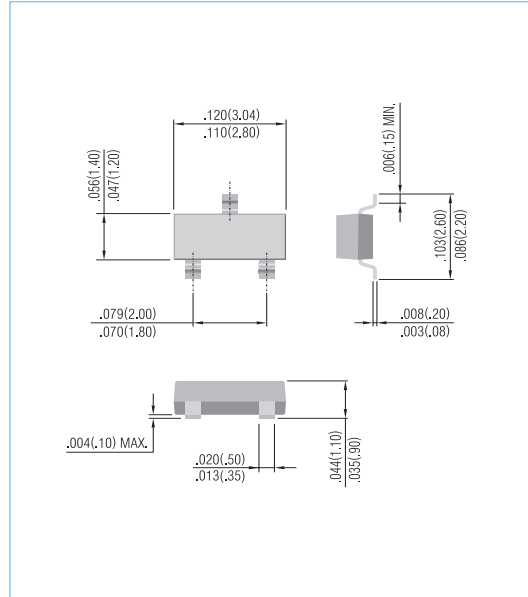


Fig.34



### ABSOLUTE RATINGS ( $T_A=25^{\circ}C$ )

Parameter	Symbol	Value	Units
Collector-Emitter Voltage	$V_{CEO}$	32	V
Collector-Base Voltage	$V_{CBO}$	40	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current Continuous	$I_C$	500	mA

### THERMAL CHARACTERISTICS

Parameter	Symbol	Value	Units
Max. Power Dissipation (Note 1)	$P_{TOT}$	225	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^{\circ}C/W$
Junction Temperature	$T_J$	-55 to +150	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}C$

NOTE : 1. Transistor mounted on FR-4 board 70 x 60 x 1mm



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### ELECTRICAL CHARACTERISTICS(T<sub>A</sub>=25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =100 μA	40	-	-	V
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA	32	-	-	V
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =100μA	5	-	-	V
Collector Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> =20V	-	-	1	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =4V	-	-	1	μA
DC Current Gain (Note 2)	h <sub>FE</sub>	V <sub>CE</sub> =3V, I <sub>C</sub> =100mA	120	-	390	-
Collector-Emitter Saturation Voltage	V <sub>CE(SAT)</sub>	I <sub>C</sub> =500mA, I <sub>B</sub> =50mA	-	-	0.6	V
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> =5V, I <sub>E</sub> =-200mA, f=100MHz	-	250	-	MHz
Collector-Base Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0A, f=1MHz	-	6.5	-	pF

NOTE : 2.Pulse Test : Pulse width < 300μs, duty cycle < 2.0%



## ELECTRICAL CHARACTERISTICS CURVE

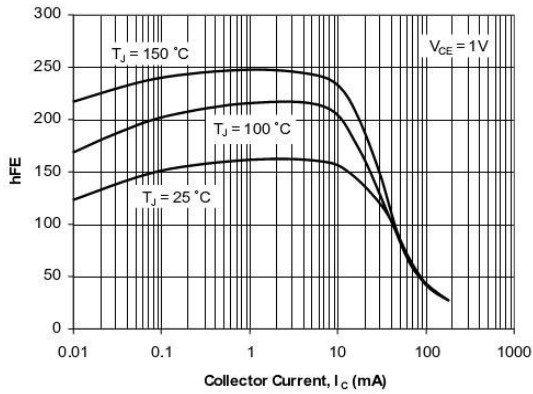


Fig. 1. Typical  $h_{FE}$  vs Collector Current

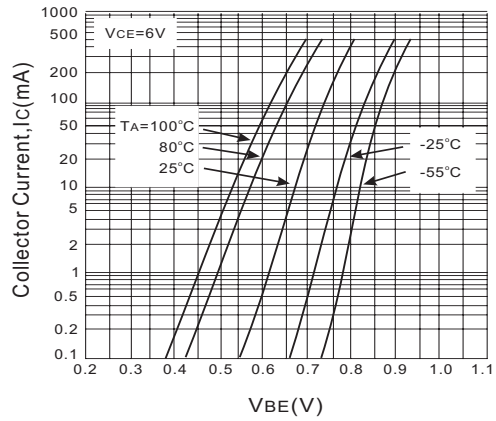


Fig.2. Typical  $V_{BE}$  vs Collector Current

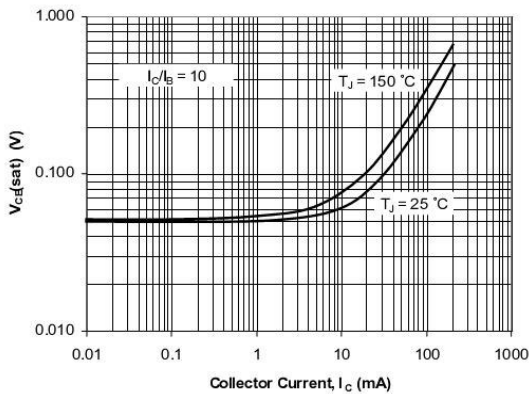


Fig. 3. Typical  $V_{CE(SAT)}$  vs Collector Current

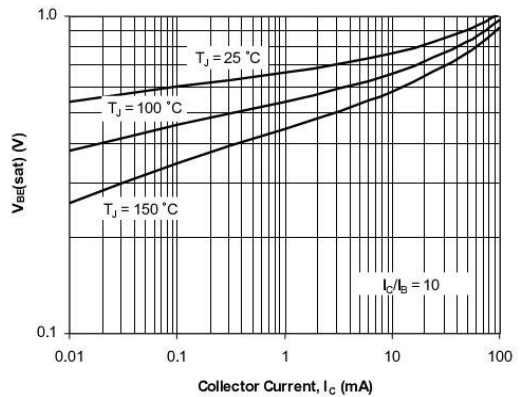


Fig. 4. Typical  $V_{BE(SAT)}$  vs Collector Current

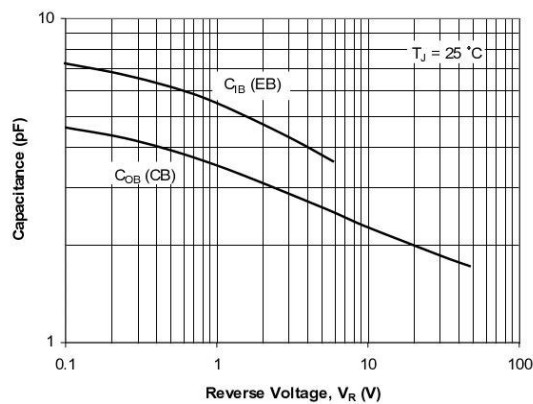
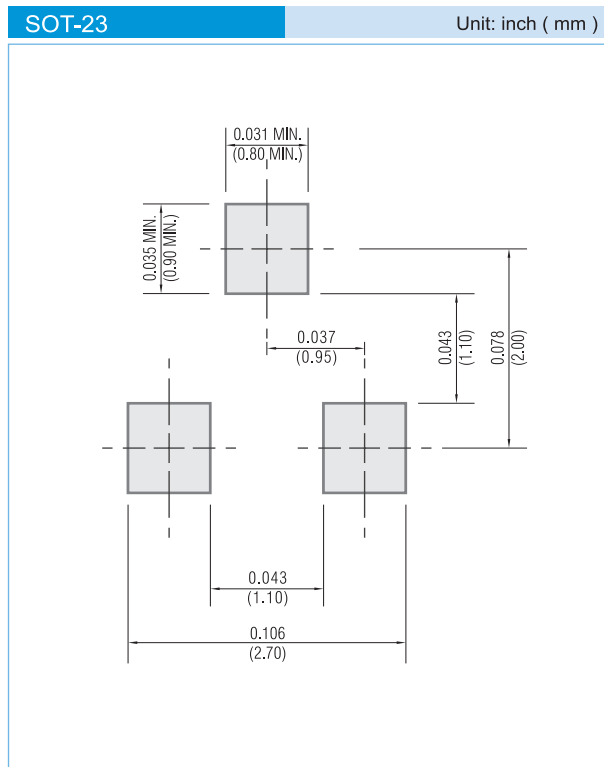


Fig. 5. Typical Capacitances vs Reverse Voltage



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## MOUNTING PAD LAYOUT



### ORDER INFORMATION

- Packing information
  - T/R - 12K per 13" plastic Reel
  - T/R - 3K per 7" plastic Reel

### LEGAL STATEMENT

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