

2SC2222H

NPN General Purpose Switching Transistor

Voltage 40V **Current** 600mA

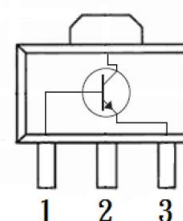
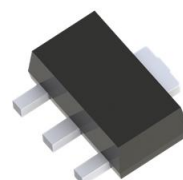
Features

- NPN epitaxial Silicon, Planar Design
- Collector-emitter voltage $V_{CE} = 40V$
- Collector current = 600mA
- Lead free in comply with EU RoHS 2011/65/EU directives.
- Green molding compound as per IEC61249 Std. (Halogen Free)

Mechanical Data

- Case: SOT-89 Package
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.002 ounces, 0.057grams
- Marking: C2H

SOT-89



Pin Assignment: 1. Base
2. Collector
3. Emitter

Maximum Ratings and Thermal Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Collector-Base Voltage	V_{CBO}	75	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current (DC)	I_C	600	mA
Collector Current (Pulse)	I_{CP}	800	mA
Total Power Dissipation	P_{TOT}	1.1	W
Junction to Ambient (Note1)	$R_{\theta JA}$	250	$^\circ\text{C}/\text{W}$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55~150	$^\circ\text{C}$

Note1: Transistor mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.



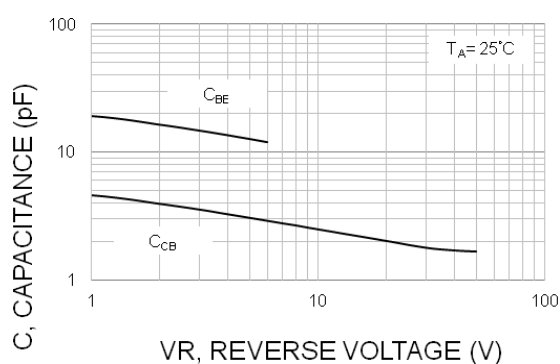
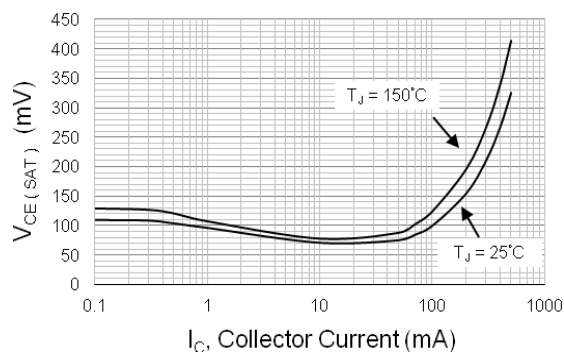
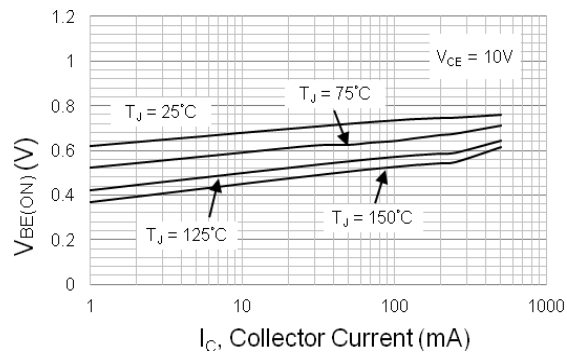
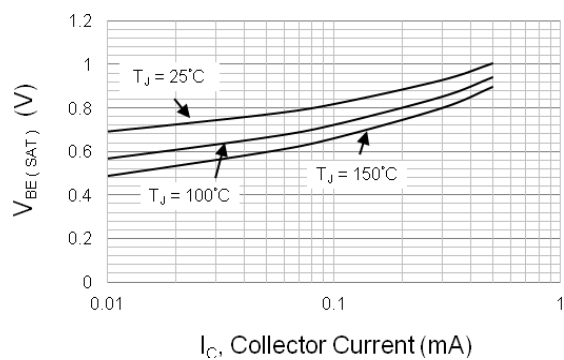
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Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
OFF Characteristics						
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = 1.0\text{mA}$, $I_B = 0\text{A}$	40	-	-	V
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = 10\mu\text{A}$, $I_E = 0\text{A}$	75	-	-	V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = 10\mu\text{A}$, $I_C = 0\text{A}$	6	-	-	V
Collector-Base Cutoff Current	I_{CBO}	$V_{CB} = 60\text{V}$, $I_E = 0\text{A}$	-	-	10	nA
Emitter-Base Cutoff Current	I_{EBO}	$V_{EB} = 3\text{V}$	-	-	10	nA
Collector-Emitter Cutoff Current	I_{CES}	$V_{CES} = 60\text{V}$	-	-	10	nA
ON characteristics						
DC Current Gain	h_{FE}	$V_{CE} = 10\text{V}$, $I_C = 0.1\text{mA}$	35	-	-	-
		$V_{CE} = 10\text{V}$, $I_C = 1\text{mA}$	50	-	-	
		$V_{CE} = 10\text{V}$, $I_C = 10\text{mA}$	75	-	-	
		$V_{CE} = 10\text{V}$, $I_C = 150\text{mA}$	100	-	300	
		$V_{CE} = 1\text{V}$, $I_C = 150\text{mA}$	50	-	-	
		$V_{CE} = 10\text{V}$, $I_C = 500\text{mA}$	40	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C = 150\text{mA}$, $I_B = 15\text{mA}$	-	-	0.3	V
		$I_C = 500\text{mA}$, $I_B = 50\text{mA}$	-	-	1.0	
Base-Emitter Saturation voltage	$V_{BE(SAT)}$	$I_C = 150\text{mA}$, $I_B = 15\text{mA}$	-	-	1.2	V
		$I_C = 500\text{mA}$, $I_B = 50\text{mA}$	-	-	2.0	
Collector-Base Capacitance	C_{CBO}	$V_{CB} = 10\text{V}$, $f = 1\text{MHz}$	-	-	8	pF
Emitter-Base Capacitance	C_{EBO}	$V_{CB} = 0.5\text{V}$, $f = 1\text{MHz}$	-	-	25	
Delay Time	t_d	$V_{CC} = 3\text{V}$, $V_{BE} = -5\text{V}$	-	-	10	nS
Rise Time	t_r	$I_C = 150\text{mA}$, $I_B = 15\text{mA}$	-	-	25	
Storage Time	t_s	$V_{CC} = 30\text{V}$, $I_C = 150\text{mA}$	-	-	225	
Fall Time	t_f	$I_{B1} = I_{B2} = 15\text{mA}$	-	-	60	
Turn-on Time	t_{on}	$I_C = 150\text{mA}$, $I_{B(on)} = 15\text{mA}$	-	-	35	
Turn-off Time	t_{off}	$I_{B(off)} = -15\text{mA}$	-	-	250	
Transition Frequency	f_T	$V_{CE} = 10\text{V}$; $I_C = 20\text{mA}$ $F = 100\text{MHz}$	300	-	-	MHz

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TYPICAL CHARACTERISTIC CURVES



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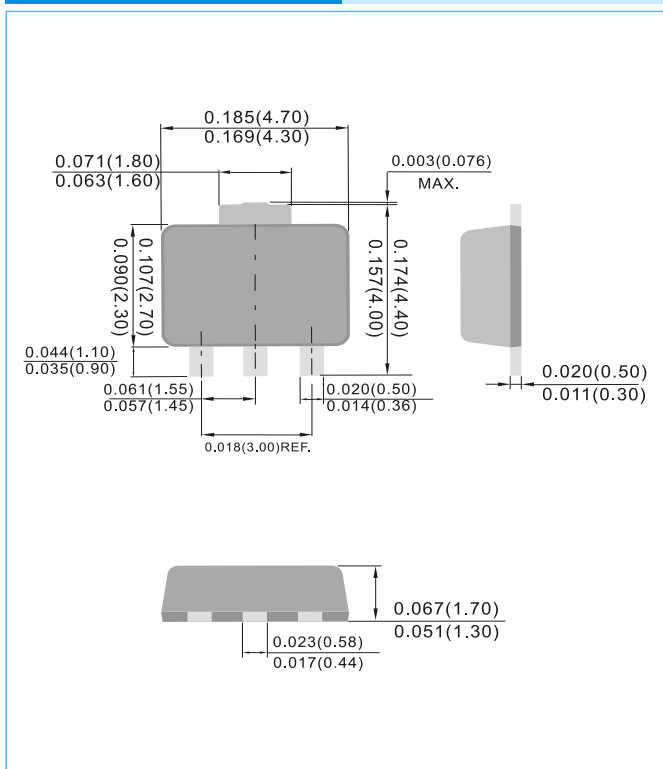
PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing type	Marking	Version
2SC2222H_R1_00001	SOT-89	1000pcs / 7" reel	C2H	Halogen free

Packaging Information & Mounting Pad Layout

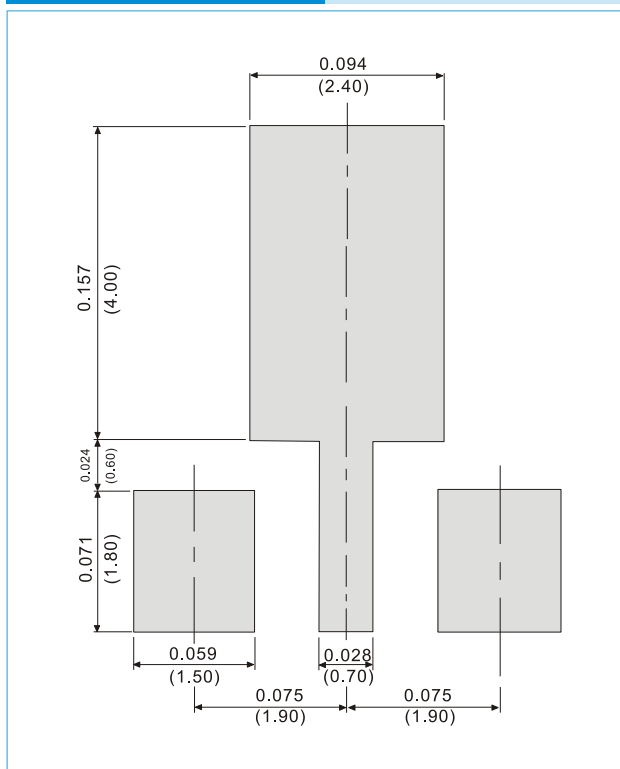
SOT-89

Unit : inch(mm)



SOT-89

Unit : inch(mm)





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