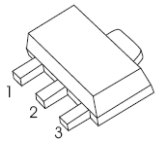
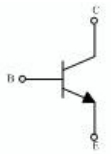
óbtbú tfl-ăűłŏπ9yŏI-LJădztfl-űŜ ¢ℕI-yăłăű2ℕ

PRIMARY CHARACTERISTICS	
P_C	500mW
V_{CEO}	25V
I_C	1.0A
$V_{CE(sat)}$	0.4V
h_{FE}	200–400
$T_{J,Max}$	150℃

SOT-89 PACKAGE



1. BASE
2. COLLECTOR
3. EMITTER



MARKING CODE : CK

FEATURES

- Low Collector-Emitter Saturation Voltage
- Mini Power Type Package
- Excellent DC Current Gain Linearity
- Moisture Sensitivity Level 1

MECHANICAL DATA

- Case：Molded plastic, SOT-89
- Polarity：As Above Marked
- Terminals :Plated terminals, solderable per MIL-STD-750,Method 2026
- Epoxy : UL94-V0 rated flame retardant

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	1	A
P_C	Collector Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	250	℃/W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~+150	℃

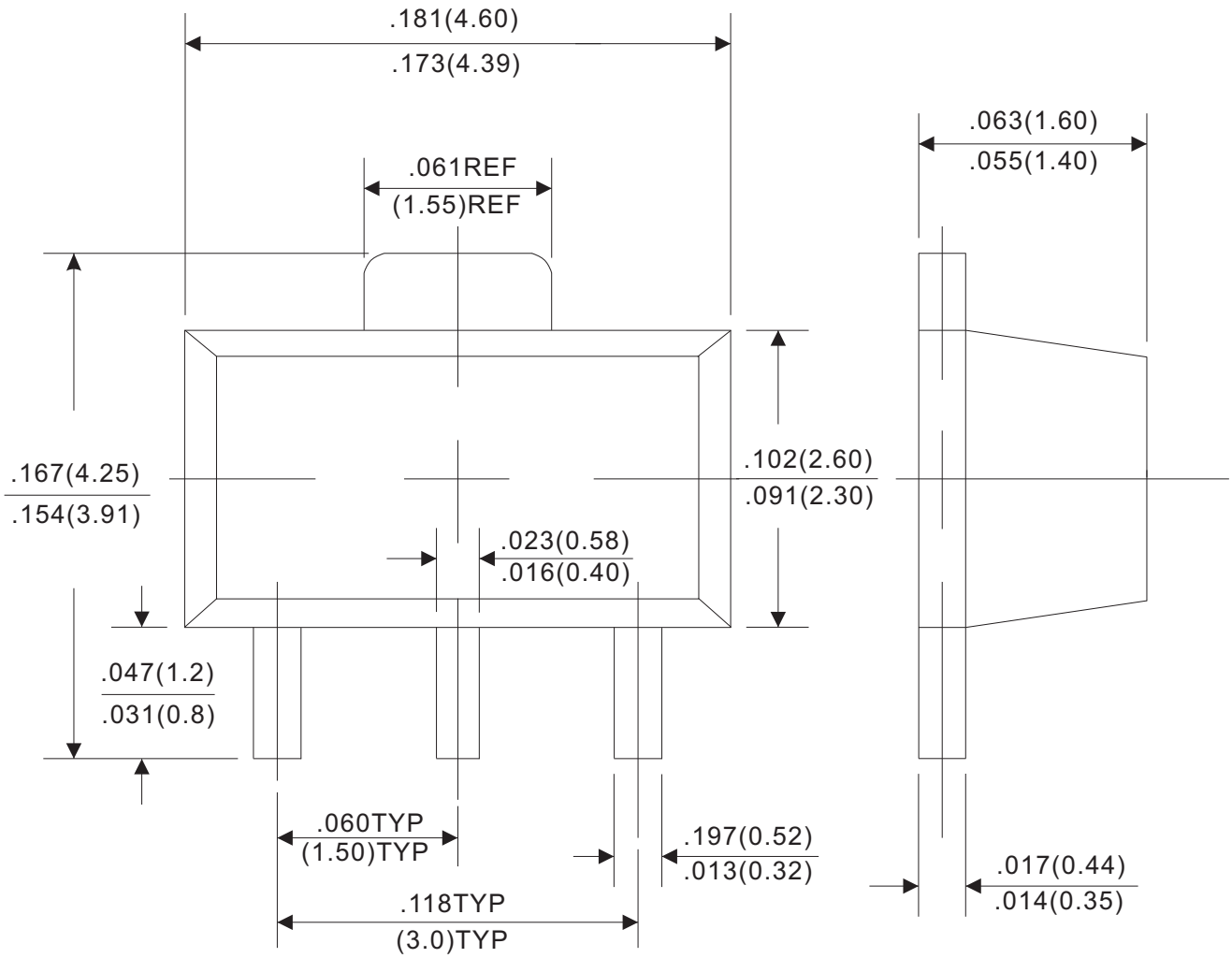
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA,I_E=0	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA,I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=30V,I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V,I_C=0			0.1	μA
DC current gain	$h_{FE(1)}$*	V_{CE}=1V, I_C=100mA	200		400	
	$h_{FE(2)}$*	V_{CE}=1V, I_C=1A	50			
Collector-emitter saturation voltage	$V_{CE(sat)}$*	I_C=1A,I_B=0.1A			0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$*	I_C=1A,I_B=0.1A			1.2	V
Base -emitter voltage	V_{BE}*	V_{CE}=6V, I_C=10mA	0.6		0.7	V
Transition frequency	f_T	V_{CE}=6V,I_C=10mA		130		MHz
Collector output capacitance	C_{ob}	V_{CB}=6V, I_E=0, f=1MHz		22		pF

*Pulse test: pulse width ≤350μs, duty cycle≤ 2.0%.

Outline Drawing

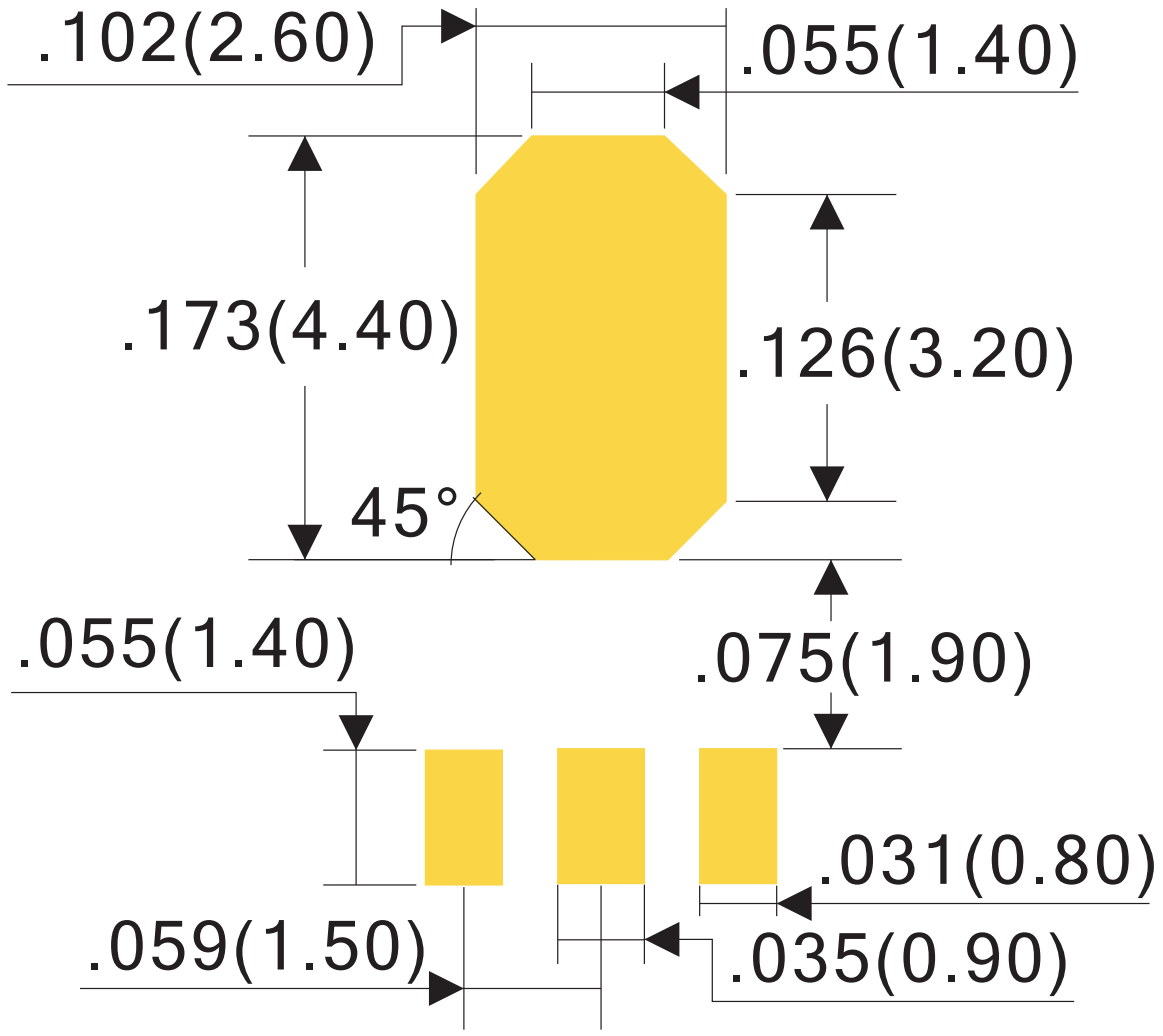
SOT-89



Dimensions in inches and (millimeters)

Rev.C

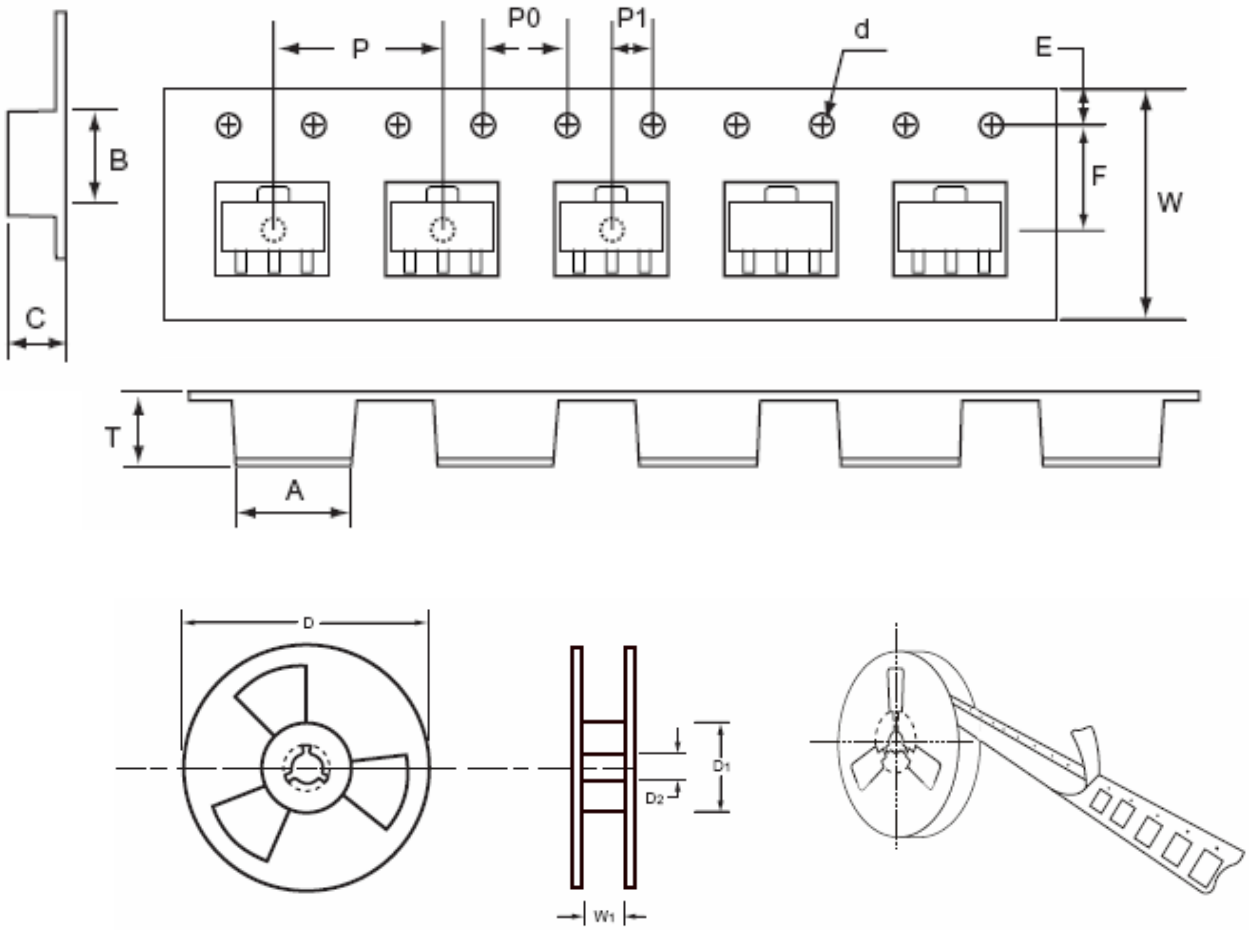
Suggested Soldering Pad Layout	SOT-89



Dimensions in inches and (millimeters)

RevA

Reel Taping Specification - Surface Mount Device/SOT-89



ITEM	SYMBOL	SPECIFICATIONS(mm)	SPECIFICATIONS(inch)
Carrier width	A	4.90±0.12	0.193±0.0047
Carrier length	B	4.80±0.16	0.189±0.0062
Carrier depth	C	2.00±0.013	0.079±0.0051
Sprocket hole	d	178±0.14	7.008±0.0055
Reel outside diameter	D	1.55±0.11	0.059±0.0043
Reel inner diameter	D_1	8±0.12	0.315±0.0047
Feed hole diameter	D_2	13±0.14	0.512±0.0055
Sprocket hole position	E	1.75±0.15	0.069±0.0059
Punch hole position	F	5.5±0.05	0.217±0.0019
Punch hole pitch	P	8.0±0.17	0.315±0.0067
Sprocket hole pitch	P_0	4.0±0.11	0.157±0.0043
Embossment center	P_1	2.0±0.05	0.079±0.0019
Overall tape thickness	T	2.3±0.05	0.091±0.0019
Tape width	W	12.0±0.12	0.472±0.0047
Reel width	W1	16.8±0.13	0.661±0.0051

Ordering Information:

Device PN	Packing
2SD999CK-T(1)G(2)-WS	Tape&Reel: 1 Kpcs/Reel

Note: (1) Packing code, Tape & Reel Packing

(2) RoHS product for packing code suffix "G"；Halogen free product for packing code suffix "H"

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