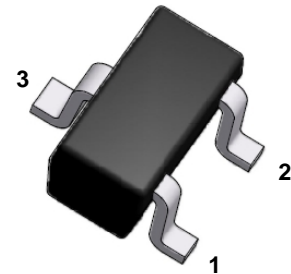


150mW SOT-523 SURFACE MOUNT Plastic Package PNP Silicon General Purpose Transistor

Green Product



SOT-523

Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

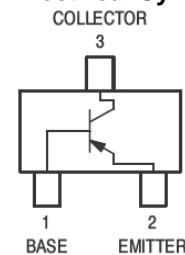
Symbol	Parameter	Value	Units
P_C	Collector Power Dissipation	150	mW
T_{STG}	Storage Temperature Range	-55 to +150	$^\circ\text{C}$
T_J	Operating Junction Temperature	+150	$^\circ\text{C}$
V_{CBO}	Collector-Base Voltage	-50	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current - Continuous	-100	mA

These ratings are limiting values above which the serviceability of the diode may be impaired.

Specification Features:

- § Low Cob = 3.5pF (Typical)
- § Low Vce(sat) < 0.5V
- § RoHS Compliant
- § Green EMC
- § Matte Tin(Sn) Lead Finish
- § Weight: approx. 0.002g

Electrical Symbol:



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

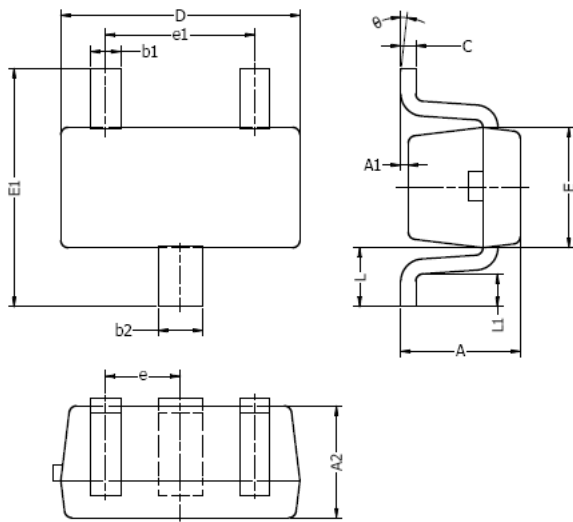
Symbol	Parameter	Test Condition	Limits			Unit	
			Min	Typ	Max		
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	$I_C = -50\mu\text{A}, I_E = 0\text{A}$	-50			Volts	
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -1\text{mA}, I_B = 0\text{A}$	-50			Volts	
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	$I_E = -50\mu\text{A}, I_C = 0\text{A}$	-5			Volts	
I_{CBO}	Collector Cut-off Current	$V_{CB} = -50\text{V}, I_E = 0\text{A}$			-0.1	μA	
I_{EBO}	Emitter Cut-off Current	$V_{EB} = -5\text{V}, I_C = 0\text{A}$			-0.1	μA	
h_{FE}	DC Current Gain	2SA1774Q	$V_{CE} = -6\text{V}, I_C = -1\text{mA}$	120		270	---
		2SA1774R	$V_{CE} = -6\text{V}, I_C = -1\text{mA}$	180		390	---
		2SA1774S	$V_{CE} = -6\text{V}, I_C = -1\text{mA}$	270		560	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -50\text{mA}, I_B = -5\text{mA}$			-0.5	Volts	
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -50\text{mA}, I_B = -5\text{mA}$			-1.2	Volts	

Symbol	Parameter	Test Condition	Limits			Unit
			Min	Typ	Max	
f_T	Transition Frequency	$V_{CE} = -5V, I_C = -10mA$ $f = 30MHz$		230		MHz
C_{OB}	Collector Output Capacitance	$V_{CB} = -12V, I_E = 0A,$ $f = 1MHz$		3.5		pF

Classification of h_{FE} & Marking Code:

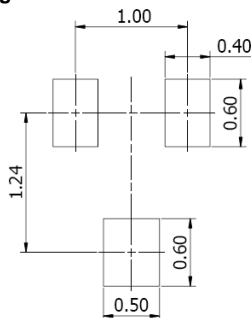
Rank	2SA1774Q	2SA1774R	2SA1774S
h_{FE} Range	120 - 270	180 - 390	270 - 560
Classification of h_{FE}			
Marking	FQ	FR	FS

SOT-523 Package Outline



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.70	0.90	0.028	0.035
A1	0.00	0.10	0.000	0.004
A2	0.70	0.80	0.028	0.031
b1	0.15	0.25	0.006	0.010
b2	0.25	0.35	0.010	0.014
c	0.10	0.20	0.004	0.008
D	1.50	1.70	0.059	0.067
E	0.70	0.90	0.028	0.035
E1	1.45	1.75	0.057	0.069
e	0.50 TYP.		0.020 TYP.	
e1	0.90	1.10	0.035	0.043
L	0.40 REF.		0.016 REF.	
L1	0.10	0.30	0.004	0.012
θ	0°	8°	0°	8°

Typical Soldering Pattern:



NOTES:

1. Above package outline conforms to JEITA EAJ ED-7500A SC-75A.
2. Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

NOTICE

The information presented in this document is for reference only. Tak Cheong reserves the right to make changes without notice for the specification of the products displayed herein.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Tak Cheong Semiconductor Co., Ltd., or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <http://www.takcheong.com>, or consult your nearest Tak Cheong's sales office for further assistance.