

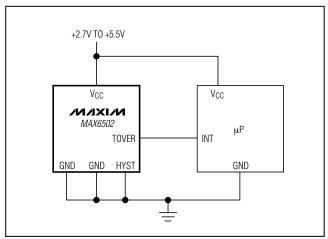
General Description

The MAX6501-MAX6504 low-cost, fully integrated temperature switches assert a logic signal when their die temperature crosses a factory-programmed threshold. Operating from a +2.7V to +5.5V supply, these devices feature two on-chip, temperature-dependent voltage references and a comparator. They are available with factory-trimmed temperature trip thresholds from -45°C to +125°C in 10°C increments, and are accurate to ±0.5°C (typ) or ±6°C (max). These devices require no external components and typically consume 30µA supply current. Hysteresis is pin-selectable at +2°C or +10°C.

The MAX6501/MAX6503 have an active-low, open-drain output intended to interface with a microprocessor (uP) reset input. The MAX6502/MAX6504 have an activehigh, push-pull output intended to directly drive fancontrol logic. The MAX6501/MAX6502 are offered with hot-temperature thresholds (+35°C to +125°C), asserting when the temperature is above the threshold. The MAX6503/MAX6504 are offered with cold-temperature thresholds (-45°C to +15°C), asserting when the temperature is below the threshold.

The MAX6501-MAX6504 are offered in eight standard temperature versions; contact the factory for pricing and availability of nonstandard temperature versions. They are available in 5-pin SOT23 and 7-pin TO-220 packages.

Typical Operating Circuit



Selector Guide and Pin Configurations appear at end of data sheet.

Features

- ♦ ±0.5°C (typical) Threshold Accuracy Over **Full Temperature Range**
- ♦ No External Components Required
- **♦ Low Cost**
- ♦ 30µA Supply Current
- **♦** Factory-Programmed Thresholds from -45°C to +125°C in 10°C Increments
- ♦ Open-Drain Output (MAX6501/MAX6503) Push-Pull Output (MAX6502/MAX6504)
- ♦ Pin-Selectable +2°C or +10°C Hysteresis
- ♦ SOT23-5 and TO220-7 Packages

Ordering Information

PART*	TEMP RANGE	PIN-PACKAGE
MAX6501UKT	-55°C to +125°C	5 SOT23-5
MAX6501CMT	-55°C to +125°C	7 TO-220-7
MAX6502UKT	-55°C to +125°C	5 SOT23-5
MAX6502CMT	-55°C to +125°C	7 TO-220-7
MAX6503UKT	-55°C to +125°C	5 SOT23-5
MAX6503CMT	-55°C to +125°C	7 TO-220-7
MAX6504UKT	-55°C to +125°C	5 SOT23-5
MAX6504CMT	-55°C to +125°C	7 TO-220-7

*These parts are offered in eight standard temperature versions with a minimum order of 2.500 pieces. To complete the suffix information, add P or N for positive or negative trip temperature. and select an available trip point in degrees centigrade. For example, the MAX6501UKP065-T describes a MAX6501 in a SOT23-5 package with a +65°C threshold. Contact the factory for pricing and availability of nonstandard temperature versions (minimum order 10,000 pieces).

Applications

uP Temperature Monitoring in High-Speed Computers

Temperature Control

Temperature Alarms

Fan Control

†Patents pending



ABSOLUTE MAXIMUM RATINGS

Supply Voltage (VCC)	0.3V to +7V
TOVER (MAX6501)	
TOVER (MAX6502)	
TUNDER (MAX6503)	0.3V to +7V
TUNDER (MAX6504)	
All Other Pins	0.3V to (V _{CC} + 0.3V)
Input Current (all pins)	20mA

Output Current (all pins)	20mA
Continuous Power Dissipation ($T_A = +70^{\circ}C$)	
5-Pin SOT23-5 (derate 7.1mW/°C above +70°C)	.571mW
Operating Temperature Range55°C to	+135°C
Storage Temperature Range65°C to	+165°C
Lead Temperature (soldering, 10sec)	.+300°C

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

 $(V_{CC} = +2.7V \text{ to } +5.5V, R_{PULL-UP} = 100k\Omega \text{ (MAX6501/MAX6503 only)}, T_A = T_{MIN} \text{ to } T_{MAX}, \text{ unless otherwise noted. Typical values are at } T_A = +25^{\circ}C.) \text{ (Note 1)}$

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS	
Supply Voltage Range	Vcc		2.7		5.5	V	
Supply Current	Icc			30	85	μΑ	
		-45°C to -25°C	-6	±0.5	+6		
Temperature Threshold	A.T	-15°C to +15°C	-4	±0.5	+4	°C	
Accuracy (Note 2)	ΔT _{TH}	+35°C to +65°C	-4	±0.5	+4		
		+75°C to +125°C	-6	±0.5	+6		
Temperature Threshold	Tuncar	HYST = GND		2		°C	
Hysteresis	T _{HYST}	HYST = V _{CC}		10			
HYST Input Threshold	VIH		0.8 x V _{CC}			V	
(Note 3)	VIL			(0.2 x Vcc	V	
Output Voltage High	lh Vou	ISOURCE = 500μA, VCC > 2.7V (MAX6502/MAX6504 only)	0.8 x V _{CC}			V	
Output Voltage High	VOH	ISOURCE = 800μA, V _{CC} > 4.5V (MAX6502/MAX6504 only)	V _{CC} - 1.5			V	
Output Valtaga Laur	1/0:	ISINK = 1.2mA, VCC > 2.7V	0.3		0.3	V	
Output Voltage Low	Vol	I _{SINK} = 3.2mA, V _{CC} > 4.5V		0.4			
Open-Drain Output Leakage Current		V _{CC} = 2.7V, V _{TUNDER} = 5.5V (MAX6503), V _{TOVER} = 5.5V (MAX6501)		10		nA	
	_	I.					

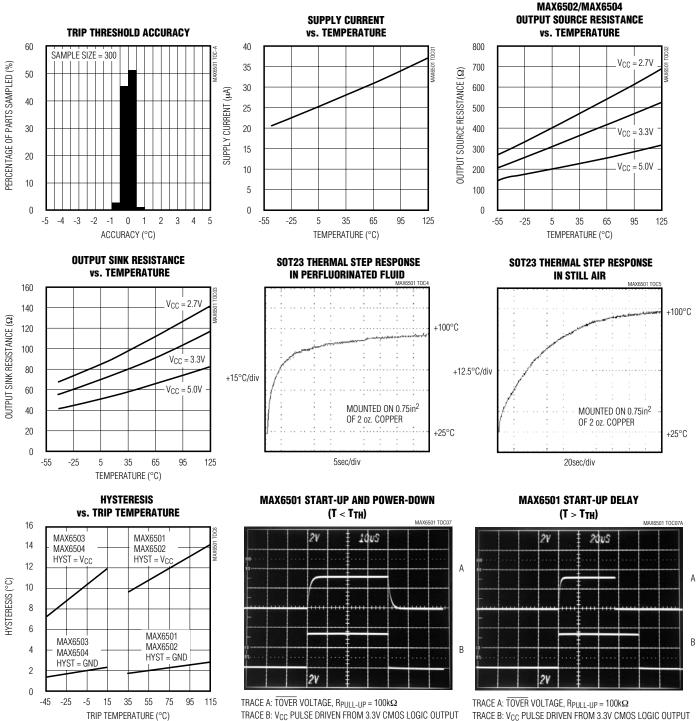
Note 1: 100% production tested at $T_A = +25$ °C. Specifications over temperature limits are guaranteed by design.

Note 2: The MAX6501–MAX6504 are available with internal, factory-programmed temperature trip thresholds from -45°C to +125°C in +10°C increments (see *Selector Guide*).

Note 3: Guaranteed by design.

Typical Operating Characteristics

 $(V_{CC} = +5V, R_{PULL-UP} = 100k\Omega (MAX6501/MAX6503), T_A = +25^{\circ}C, unless otherwise noted.)$



Pin Description

	PIN			NAME	FUNCTION	
MAX6501	MAX6502	MAX6503	MAX6504	NAME	FUNCTION	
1, 2	1, 2	1, 2	1, 2	GND	Ground. Not internally connected. Tie both ground pins together close to the chip. Pin 2 provides the lowest thermal resistance to the die.	
3	3	3	3	HYST	Hysteresis Input. Connect HYST to GND for +2°C hysteresis, or connect to V _{CC} for +10°C hysteresis.	
4	4	4	4	Vcc	Supply Input (+2.7V to +5.5V)	
5	_	_	_	TOVER	Open-Drain, Active-Low Output. TOVER goes low when the die temperature exceeds the factory-programmed temperature threshold. Connect to a 100kΩ pull-up resistor. May be pulled up to a voltage higher than V _{CC} .	
_	5	_	_	TOVER	Push-Pull Active-High Output. TOVER goes high when the die temperature exceeds the factory-programmed temperature threshold.	
_	_	5	_	TUNDER	Open-Drain, Active-Low Output. TUNDER goes low when the die temperature goes below the factory-programmed temperature threshold. Connect to a 100kΩ pull-up resistor. May be pulled up to a voltage higher than V _{CC} .	
_	_	_	5	TUNDER	Push-Pull Active-High Output. TUNDER goes high when the die temperature falls below the factory-programmed temperature threshold.	

General Description

The MAX6501–MAX6504 fully integrated temperature switches incorporate two temperature-dependent references and a comparator. One reference exhibits a positive temperature coefficient and the other a negative temperature coefficient (Figure 1). The temperature at which the two reference voltages are equal determines the temperature trip point. Pin-selectable +2°C or +10°C hysteresis keeps the output from oscillating when the die temperature approaches the threshold temperature. The MAX6501/MAX6503 have an active-low, open-drain output structure that can only sink current. The MAX6502/MAX6504 have an active-high, push-pull output structure that can sink or source current. The internal power-on reset circuit guarantees the output is at $T_{TH} = +25^{\circ}C$ state at start-up for 50µs.

The MAX6501–MAX6504 are available with factory-preset temperature thresholds from -45°C to +125°C in 10°C increments. Table 1 lists the available temperature threshold ranges. The MAX6501/MAX6503 outputs are intended to interface with a microprocessor (μ P) reset input (Figure 2). The MAX6502/MAX6504 outputs are intended for applications such as driving a fan control (Figure 3).

Table 1. Factory-Programmed Threshold Range

PART	THRESHOLD (T _{TH}) RANGE
MAX6501	+35°C < T _{TH} < +125°C
MAX6502	+35°C < T _{TH} < +125°C
MAX6503	-45°C < T _{TH} < +15°C
MAX6504	-45°C < T _{TH} < +15°C

Hysteresis Input

The HYST pin is a CMOS-compatible input that selects hysteresis at either a high level (+10°C for HYST = V_{CC}) or a low level (+2°C for HYST = GND). Hysteresis prevents the output from oscillating when the temperature approaches the trip point. The HYST pin should not float. Drive HYST close to ground or V_{CC}. Other input voltages cause increased supply current. The actual amount of hysteresis depends on the part's programmed trip threshold (see the *Typical Operating Characteristics*).

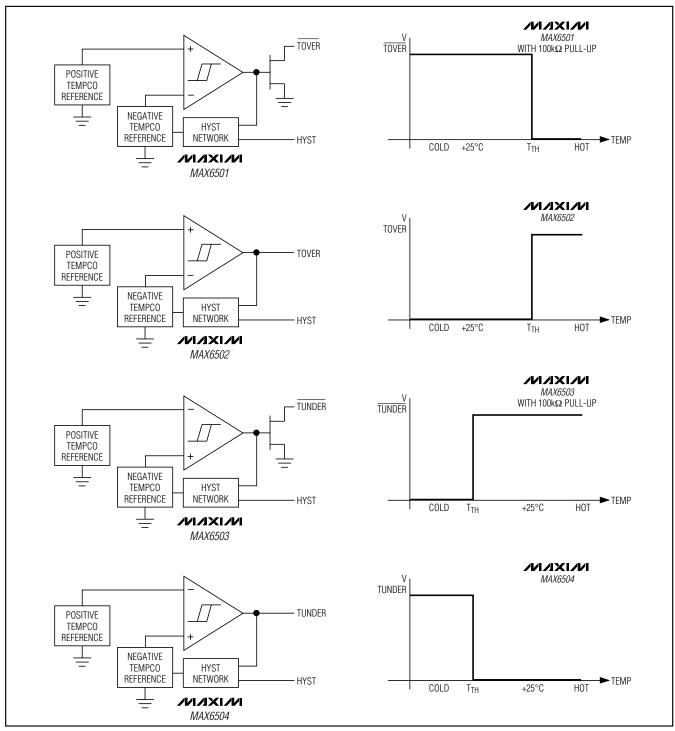


Figure 1. Block and Functional Diagrams

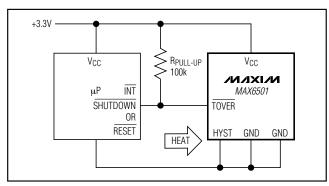


Figure 2. Microprocessor Alarm/Reset

Applications Information

Thermal Considerations

The MAX6501–MAX6504 supply current is typically $30\mu A$. When used to drive high-impedance loads, the devices dissipate negligible power. Therefore, the die temperature is essentially the same as the package temperature. The key to accurate temperature monitoring is good thermal contact between the MAX6501–MAX6504 package and the device being monitored. In some applications, the SOT23-5 package may be small enough to fit underneath a socketed μP , allowing the device to monitor the μP 's temperature directly. The TO-220 package can monitor the temperature of a heat sink directly, and presents the lower thermal resistance of the two packages. Use the monitor's output to reset the μP , assert an interrupt, or trigger an external alarm.

Accurate temperature monitoring depends on the thermal resistance between the device being monitored and the MAX6501–MAX6504 die. Heat flows in and out of plastic packages, primarily through the leads. Pin 2 of the SOT23-5 package provides the lowest thermal resistance to the die. Short, wide copper traces leading to the temperature monitor ensure that heat transfers quickly and reliably.

The rise in die temperature due to self-heating is given by the following formula:

$\Delta T_{\rm J} = {\sf PDISSIPATION} \times \theta_{\rm JA}$

where PDISSIPATION is the power dissipated by the MAX6501-MAX6504, and θ_{JA} is the package's thermal resistance.

The typical thermal resistance is 140°C/W for the SOT23-5 package and 75°C/W for the TO-220 package. To limit the effects of self-heating, minimize the output currents. For example, if the MAX6501 or MAX6503 sink 1mA, the output voltage is guaranteed to be less than 0.3V. Therefore, an additional 0.3mW of

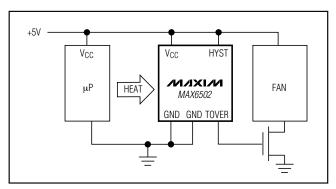


Figure 3. Overtemperature Fan Control

power is dissipated within the IC. This corresponds to a 0.042°C shift in the die temperature in the SOT23-5.

Temperature-Window Alarm

The MAX6501–MAX6504 temperature switch outputs assert when the die temperature is outside the factory-programmed range. Combining the outputs of two devices creates an over/undertemperature alarm. The MAX6501/MAX6503 and the MAX6502/MAX6504 are designed to form two complementary pairs, each containing one cold trip-point output and one hot trip-point output. The assertion of either output alerts the system to an out-of-range temperature. The MAX6502/MAX6504 push/pull output stages can be ORed to produce a thermal out-of-range alarm. More favorably, a MAX6501/MAX6503 can be directly wire-ORed with a single external resistor to accomplish the same task (Figure 4).

The temperature window alarms shown in Figure 4 can be used to accurately determine when a device's temperature falls out of the -5°C to +75°C range. The thermal-overrange signal can be used to assert a thermal shutdown, power-up, recalibration, or other temperature-dependent function.

Low-Cost, Fail-Safe Temperature Monitor

In high-performance/high-reliability applications, multiple temperature monitoring is important. The high-level integration and low cost of the MAX6501–MAX6504 facilitate the use of multiple temperature monitors to increase system reliability. Figure 5's application uses two MAX6502s with different temperature thresholds to ensure that fault conditions that can overheat the monitored device cause no permanent damage. The first temperature monitor activates the fan when the die temperature exceeds +45°C. The second MAX6502 triggers a system shutdown if the die temperature reaches +75°C. The second temperature monitor's output asserts when a wide variety of destructive fault conditions occur, including latchups, short circuits, and cooling-system failures.

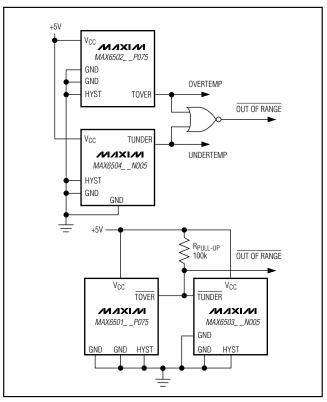


Figure 4. Temperature-Window Alarms

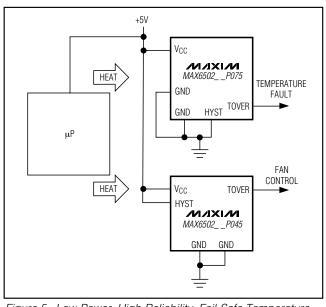


Figure 5. Low-Power, High-Reliability, Fail-Safe Temperature Monitor

Table 2. Device Marking Codes for SOT23-5 Package

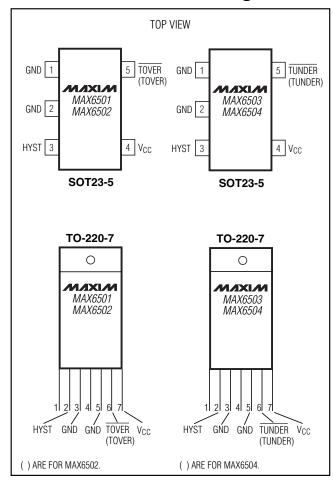
DEVICE	CODE	MINIMUM ORDER
MAX6501UKP035	ABZF	10k
MAX6501UKP045	ABZR	2.5k
MAX6501UKP055	ACFW	2.5k
MAX6501UKP065	ABZS	2.5k
MAX6501UKP075	ACFV	2.5k
MAX6501UKP085	ACDP	2.5k
MAX6501UKP095	ABZT	2.5k
MAX6501UKP105	ACFU	10k
MAX6501UKP115	ACAG	2.5k
MAX6501UKP125	ADQK	2.5 k
MAX6502UKP035	ABZG	10k
MAX6502UKP045	ABZU	2.5k
MAX6502UKP055	ACGC	2.5k
MAX6502UKP065	ABZV	2.5k
MAX6502UKP075	ACGB	2.5k
MAX6502UKP085	ACGA	2.5k
MAX6502UKP095	ABZW	2.5k

DEVICE	CODE	MINIMUM ORDER
MAX6502UKP105	ACFZ	10k
MAX6502UKP115	ACFY	2.5k
MAX6502UKP125	ADUD	2.5k
MAX6503UKN045	ADIZ	10k
MAX6503UKN035	ADVS	10k
MAX6503UKN025	ADVR	10k
MAX6503UKN015	ACFX	2.5k
MAX6503UKN005	ADNZ	10k
MAX6503UKP005	ABZX	2.5k
MAX6503UKP015	ADPN	10k
MAX6504UKN045	ACAX	10k
MAX6504UKN035	ADVU	10k
MAX6504UKN025	ADVT	10k
MAX6504UKN015	ACGD	2.5k
MAX6504UKN005	ADVX	10k
MAX6504UKP005	ABZY	2.5k
MAX6504UKP015	ADKE	10k

Selector Guide

PART		MAX6501	MAX6502	MAX6503	MAX6504
OUTPUT STAGE		Open- Drain	Push-Pull	Open- Drain	Push-Pull
TRIP TEMP THRESHOLD		Hot	Hot	Cold	Cold
	-45			1	✓
ပ	-35			1	✓
°)	-25			1	✓
Ë	-15			1	✓
웃	-5			1	✓
3ES	+5			1	✓
STANDARD TEMPERATURE THRESHOLDS (°C)	+15			1	✓
	+35	✓	✓		
Ę	+45	✓	✓		
H.A	+55	✓	✓		
MPE	+65	✓	✓		
田田	+75	✓	✓		
8	+85	✓	✓		
DA	+95	✓	✓		
NA N	+105	✓	✓		
S	+115	✓	✓		
	+125	1	1		

Pin Configurations



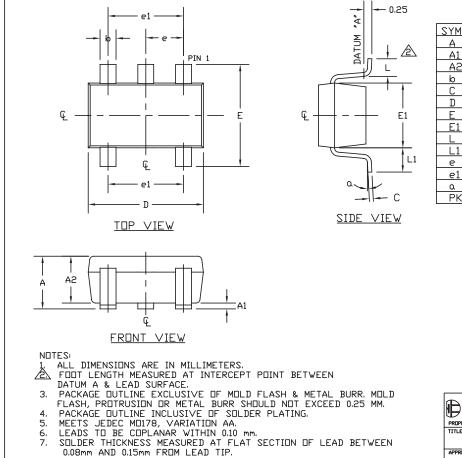
Chip Information

TRANSISTOR COUNT: 237

SUBSTRATE CONNECTED TO GND

Package Information

(The package drawing(s) in this data sheet may not reflect the most current specifications. For the latest package outline information, go to www.maxim-ic.com/packages.)



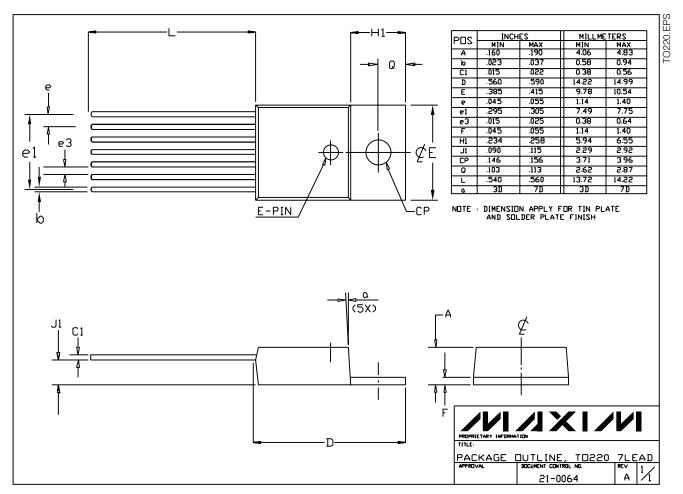
SYMBOL	MIN	NDM	MAX		
Α	0.90	1.25	1.45		
A1	0.00	0.05	0.15		
A2	0.90	1.10	1.30		
b	0.35	0.40	0.50		
С	0.08	0.15	0.20		
D	2.80	2.90	3.00		
E	2.60	2.80	3.00		
E1	1.50	1.625	1.75		
L	0.35	0.45	0.60		
L1	(0.60 REF			
е	0.95 BSC.				
e1	1.90 BSC.				
α	0°	2.5°	8°		
PKG CDDES: 115-1 115-2					



PACKAGE OUTLINE, SOT-23, 5L

Package Information (continued)

(The package drawing(s) in this data sheet may not reflect the most current specifications. For the latest package outline information, go to www.maxim-ic.com/packages.)



_Revision History

Pages changed at Rev 5: 1, 2, 4, 7, 9, 10

Maxim cannot assume responsibility for use of any circuitry other than circuitry entirely embodied in a Maxim product. No circuit patent licenses are implied. Maxim reserves the right to change the circuitry and specifications without notice at any time.

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WHAT'S NEW PRODUCTS SOLUTIONS

	SEARCH	PART NO. SEARCH

BUY

SUPPORT

MAX6501

Part Number Table

APPNOTES

Notes:

- See the MAX6501 QuickView Data Sheet for further information on this product family or download the MAX6501 full data sheet (PDF, 368kB).
- 2. Other options and links for purchasing parts are listed at: http://www.maxim-ic.com/sales.

DESIGN

- 3. Didn't Find What You Need? Ask our applications engineers. Expert assistance in finding parts, usually within one business day.
- 4. Part number suffixes: T or T&R = tape and reel; + = RoHS/lead-free; # = RoHS/lead-exempt. More: See full data sheet or Part Naming Conventions.
- 5. * Some packages have variations, listed on the drawing. "PkgCode/Variation" tells which variation the product uses.

Part Number	Free Sample	Buy Direct	Package: TYPE PINS SIZE DRAWING CODE/VAR *	Temp	RoHS/Lead-Free? Materials Analysis
MAX6501CMP045		Buy	Plastic TO-220;7 pin;- Dwg: 21-0064B (PDF) Use pkgcode/variation: C227-1*		RoHS/Lead-Free: No Materials Analysis
MAX6501CMP065	Sample	Buy	Plastic TO-220;7 pin;- Dwg: 21-0064B (PDF) Use pkgcode/variation: C227-1*		RoHS/Lead-Free: No Materials Analysis
MAX6501CMP085	Sample	Buy	Plastic TO-220;7 pin;- Dwg: 21-0064B (PDF) Use pkgcode/variation: C227-1*		RoHS/Lead-Free: No Materials Analysis
MAX6501UKP120+	Sample	Buy		-40°C to +85°C	RoHS/Lead-Free: Yes
MAX6501UKP075	Sample	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP075+	Sample	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: Yes

		Use pkgcode/variation: U5+2*		Materials Analysis
MAX6501UKP065	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP065+	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: Yes
		Use pkgcode/variation: U5+2*		Materials Analysis
MAX6501UKP055+	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: Yes
		Use pkgcode/variation: U5+2*		Materials Analysis
MAX6501UKP057	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP055	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP045	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP045+	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6501UKP035	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP085+	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6501UKP085	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
		Use pkgcode/variation: U5-2*		Materials Analysis
MAX6501UKP090+	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: Yes
		Use pkgcode/variation: U5+2*		Materials Analysis
MAX6501UKP125	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP125+	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6501UKP105+		SOT-23;5 pin;	-40°C to ±85°C	RoHS/Lead-Free: Yes
MAYOZOTOKŁTOŻ	Sample Buy	Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40.0 10 +92.0	Materials Analysis

MAX6501UKP115	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP115+	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: Yes
		Use pkgcode/variation: U5+2*		Materials Analysis
MAX6501UKP105	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP095	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP095+	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: Yes
		Use pkgcode/variation: U5+2*		Materials Analysis
MAX6501UKP090	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP125-T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP120+T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6501UKP090+T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: Yes
		Use pkgcode/variation: U5+2*		Materials Analysis
MAX6501UKP045+T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: Yes
		Use pkgcode/variation: U5+2*		Materials Analysis
MAX6501UKP125+T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MANGE 04111/0005 T		• •	4000	•
MAX6501UKP035-T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP045-T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP055-T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP057-T		SOT-23;5 pin;	-40°C to +85°C	RoHS/Lead-Free: No

	Buy	Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*		Materials Analysis
MAX6501UKP075-T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP085-T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP090-T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP095-T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP105-T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP115-T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP105+T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6501UKP065-T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6501UKP055+T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6501UKP065+T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6501UKP115+T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6501UKP095+T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6501UKP085+T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6501UKP075+T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: Yes

	Use pkgcode/variation: U5+2*	Materials Analysis
MAX6501CMP035	Sample Buy	RoHS/Lead-Free: No
MAX6501CMP055	Sample Buy	RoHS/Lead-Free: No
MAX6501CMP075	Sample Buy	RoHS/Lead-Free: No
MAX6501CMP095	Sample Buy	RoHS/Lead-Free: No
MAX6501CMP115	Sample Buy	RoHS/Lead-Free: No
MAX6501CMP125	Sample Buy	RoHS/Lead-Free: No
MAX6501CMP105	Sample Buy	RoHS/Lead-Free: No

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MEMBERS

COMPANY



WHAT'S NEW PRODUCTS SOLUTIONS

SEARCH	PART NO. SEARCH

BUY

SUPPORT

MAX6503

APPNOTES

Part Number Table

Notes:

- 1. See the MAX6503 QuickView Data Sheet for further information on this product family or download the MAX6503 full data sheet (PDF, 368kB).
- 2. Other options and links for purchasing parts are listed at: http://www.maxim-ic.com/sales.

DESIGN

- 3. Didn't Find What You Need? Ask our applications engineers. Expert assistance in finding parts, usually within one business day.
- 4. Part number suffixes: T or T&R = tape and reel; + = RoHS/lead-free; # = RoHS/lead-exempt. More: See full data sheet or Part Naming Conventions.
- 5. * Some packages have variations, listed on the drawing. "PkgCode/Variation" tells which variation the product uses.

Part Number	Free Sample	Buy Direct	Package: TYPE PINS SIZE DRAWING CODE/VAR *	Temp	RoHS/Lead-Free? Materials Analysis
MAX6503UKP005+T		Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6503UKN025+	Sample	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6503UKN025	Sample	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6503UKN035	Sample	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6503UKN045	Sample	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6503UKP005	Sample	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis

		Use pkgcode/variation: U5-2*		
MAX6503UKP015	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6503UKP015+	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: Yes
		Use pkgcode/variation: U5+2*		Materials Analysis
MAX6503UKN005+	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6503UKN005+T	Dun	SOT-23;5 pin;	-40°C to +85°C	RoHS/Lead-Free: Yes
MAXOSOSOKNOOSTT	Buy	Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	40 6 10 103 6	Materials Analysis
MAX6503UKN015+	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: Yes
		Use pkgcode/variation: U5+2*		Materials Analysis
MAX6503UKN015+T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: Yes
		Use pkgcode/variation: U5+2*		Materials Analysis
MAX6503UKN035+	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6503UKN035+T	_	SOT-23;5 pin;	400C to 10E0C	RoHS/Lead-Free: Yes
MAX03030KN033+1	Buy	Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +65°C	Materials Analysis
MAX6503UKN045+	Sample Buy	SOT-23;5 pin;	-40°C to +85°C	RoHS/Lead-Free: Yes
	Sample	Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*		Materials Analysis
MAX6503UKN045+T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: Yes
		Use pkgcode/variation: U5+2*		Materials Analysis
MAX6503UKP005+	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: Yes
		Use pkgcode/variation: U5+2*		Materials Analysis
MAX6503UKN015	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6503UKN005	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6503UKN005-T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis

MAX6503UKP015+T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6503UKN015-T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6503UKN025-T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6503UKN035-T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6503UKN045-T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6503UKP005-T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6503UKP015-T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6503UKN025+T	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6503CMP045	Sample Buy	ose procede, variation. 0312		RoHS/Lead-Free: No
MAX6503CMP055	Sample Buy			RoHS/Lead-Free: No
MAX6503CMP065	Sample Buy			RoHS/Lead-Free: No
MAX6503CMP075	Sample Buy			RoHS/Lead-Free: No
MAX6503CMP085	Sample Buy			RoHS/Lead-Free: No
MAX6503CMP095	Sample Buy			RoHS/Lead-Free: No
MAX6503CMP105				RoHS/Lead-Free: No

Sample Buy

MAX6503CMP115 Sample Buy

RoHS/Lead-Free: No

MAX6503CMP035 Sample Buy

RoHS/Lead-Free: No

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WHAT'S NEW PRODUCTS SOLUTIONS

SEARCH	PART NO. SEARCH

BUY

SUPPORT

MAX6504

DESIGN

Part Number Table

APPNOTES

Notes:

- 1. See the MAX6504 QuickView Data Sheet for further information on this product family or download the MAX6504 full data sheet (PDF, 368kB).
- 2. Other options and links for purchasing parts are listed at: http://www.maxim-ic.com/sales.
- 3. Didn't Find What You Need? Ask our applications engineers. Expert assistance in finding parts, usually within one business day.
- 4. Part number suffixes: T or T&R = tape and reel; + = RoHS/lead-free; # = RoHS/lead-exempt. More: See full data sheet or Part Naming Conventions.
- 5. * Some packages have variations, listed on the drawing. "PkgCode/Variation" tells which variation the product uses.

Part Number	Free Sample	Buy Direct	Package: TYPE PINS SIZE DRAWING CODE/VAR *	Temp	RoHS/Lead-Free? Materials Analysis
MAX6504CMP035	Sample	Buy		-40°C to +85°C	RoHS/Lead-Free: No
MAX6504CMP115	Sample	Buy		-40°C to +85°C	RoHS/Lead-Free: No
MAX6504CMP105	Sample	Buy		-40°C to +85°C	RoHS/Lead-Free: No
MAX6504CMP095	Sample	Buy		-40°C to +85°C	RoHS/Lead-Free: No
MAX6504CMP085	Sample	Buy		-40°C to +85°C	RoHS/Lead-Free: No
MAX6504CMP075	Sample	Buy		-40°C to +85°C	RoHS/Lead-Free: No

MAX6504CMP065	Sample Buy		-40°C to +85°C	RoHS/Lead-Free: No
MAX6504CMP055	Sample Buy		-40°C to +85°C	RoHS/Lead-Free: No
MAX6504CMP045	Sample Buy		-40°C to +85°C	RoHS/Lead-Free: No
MAX6504UKP005+	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6504UKN045	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6504UKN005	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6504UKN015	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6504UKN025	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6504UKN035	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6504UKP005	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6504UKP015+	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6504UKP015	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6504UKN015+	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MAX6504UKN045+	Sample Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis

MAX6504UKN025+	Sample	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MANCEQUIUMOSE			• •	400C to 10E0C	,
MAX6504UKN035+	Sample	Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MANGEOALUGNOOF.T				400C to 10E0C	•
MAX6504UKN025+T		Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
MANGEO 4111/0104 F . T				4000	•
MAX6504UKN015+T		Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkqcode/variation: U5+2*	-40°C to +85°C	RoHS/Lead-Free: Yes Materials Analysis
			. 5		•
MAX6504UKP015+T		Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: Yes
			Use pkgcode/variation: U5+2*		Materials Analysis
MAX6504UKN005-T		Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
MAX6504UKN015-T		Buy	SOT-23;5 pin;	-40°C to +85°C	RoHS/Lead-Free: No
			Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*		Materials Analysis
MAX6504UKN025-T		Buy	SOT-23;5 pin;	-40°C to +85°C	RoHS/Lead-Free: No
		Duy	Dwg: 21-0057F (PDF)		Materials Analysis
			Use pkgcode/variation: U5-2*		
MAX6504UKN035-T		Buy	SOT-23;5 pin;	-40°C to +85°C	RoHS/Lead-Free: No
			Dwg: 21-0057F (PDF) Use pkgcode/variation: U5-2*		Materials Analysis
MANCEOALIKNOAE T				400C to 10E0C	DaliC/Land Trans No.
MAX6504UKN045-T		Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
			Use pkgcode/variation: U5-2*		
MAX6504UKP005-T		Buy	SOT-23;5 pin;	-40°C to +85°C	RoHS/Lead-Free: No
		24,	Dwg: 21-0057F (PDF)		Materials Analysis
			Use pkgcode/variation: U5-2*		
MAX6504UKP015-T		Buy	SOT-23;5 pin; Dwg: 21-0057F (PDF)	-40°C to +85°C	RoHS/Lead-Free: No Materials Analysis
			Use pkgcode/variation: U5-2*		Materials Allalysis
MAX6504UKN045+T		Buy	SOT-23;5 pin;	-40°C to +85°C	RoHS/Lead-Free: Yes
		Duy	Dwg: 21-0057F (PDF)		·
			Use pkgcode/variation: U5+2*		Materials Analysis
MAX6504UKP005+T		Buy	SOT-23;5 pin;	-40°C to +85°C	RoHS/Lead-Free: Yes
			Dwg: 21-0057F (PDF) Use pkgcode/variation: U5+2*		Materials Analysis
MAX6504UKN035+T			SOT-23;5 pin;	-40°C to +85°C	RoHS/Lead-Free: Yes
17770304011103311			301 23,3 μπ,	10 0 10 103 0	North, Ledu Tree. Tes

Materials Analysis

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