

Surface Mount Products—Discretes

SOT 23

Microminiature Space Saving Alternatives for Discrete Devices

A wide variety of discrete components from Motorola's repertoire of reliability-proven semiconductor processes and geometries are available in SOT (Small Outline Transistor) packages. Products include Bipolar and Field-Effect Transistors; Switching, Zener and Varactor Diodes; and Silicon Controlled Rectifiers. The surface-mounted SOT devices are currently being used by circuit designers on Printed Circuit Boards and Ceramic Substrate.

Some of the significant features of the SOT devices are:

- **Complete Pretest Capability** — all SOT's are 100% electrically tested.
- **Handling and Assembly Ease** — SOT's can be placed on substrates either manually or by using automated handling equipment.
- **Reliability** — SOT's are subjected to the same rigid reliability test performed on all Motorola plastic packages.
- **Small Size/Less Weight** — Considerable size reduction and weight-saving is achieved in circuit designs using SOT technology.
- **Broad Line** — Currently, Motorola offers over 250 standard discrete devices in the SOT packages. (Inquiries regarding customers' special requirements are invited.)
- **Marking Capability** — A multi-digit code is laser marked on every SOT device.

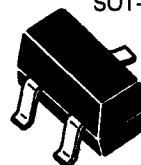
- **Packaging** — Motorola standard shipping method for SOT's is in vials; additionally, in conjunction with the industry trend to use automatic placement equipment for microminiature components, Motorola offers the SOT-23 packaged in the 8mm tape and reel format.

- **Standard SOT-23 VS Low Profile SOT-23** — Motorola offers both the standard SOT-23 outline (TO-236AA) and the new "Low Profile" SOT-23 (TO-236AB). The only difference is the clearance from the bottom of the package to the surface of the substrate.

Devices	Millimetres		Inches	
	Min	Max	Min	Max
Standard SOT-23	0.10	0.25	0.04	0.0099
Low Profile SOT-23	0.01	0.10	0.0005	0.0040

The "Low Profile" package is primarily designed for customers using two-sided printed circuit boards with the SOT-23's mounted on the "bottom side" of the board, and with the nonsurface mounted device on the "top side." Contact your Motorola representative for ordering instructions on "Low Profile" SOT-23's.

SOT-23



CASE 318
TO-236AA
TO-236AB

General-Purpose SOT-23 Transistors

Pinout: 1-Base, 2-Emitter, 3-Collector

Devices are listed in order of descending breakdown voltage.

NPN

Device Type	Marking	V _{BR} (CEO)	h _{FE}			f _T
			Min	Max	@ I _C (mA)	Min (MHz)
BC846	1A	65V	200	450	2	200
BC846A	1B	65V	110	220	2	200
BC847C	1G	45V	420	800	2	200
BC850C	2G	45V	420	800	2	200
BCX70J	AJ	45V	250	460	2	125
BC81740	6C	45V	250	630	100	150
BC850B	2F	45V	200	450	2	200
BC817B	1F	45V	200	450	2	200
BCW72	K2	45V	200	450	2	—
BCX704	AH	45V	180	310	2	125
BC817-25	6B	45V	160	400	100	150
BCX70G	AG	45V	120	220	2	125
BC847A	1E	45V	110	220	2	200
BC817-16	6A	45V	100	250	100	150
BCX19	U1	45V	100	600	100	200
MMBT2222A	1P	40V	100	300	150	200
MMBT3904	1A	40V	100	300	10	200
BCW60C	AC	32	250	460	2	125
BCW65C	EC	32	250	630	100	100
BCW60B	AB	32	180	310	2	125
BCW65B	EB	32	160	400	100	100
BC849C	2C	30V	420	800	2	200
BC848C	1L	30V	420	800	2	200
BC849B	2B	30V	200	450	2	200
BC848B	1K	30V	200	450	2	200
BC848A	1J	30V	110	220	2	200
BC818-40	6H	25V	250	630	100	150