FERRANTI semiconductors®

BSS63

PNP Silicon Planar High Voltage Transistor

DESCRIPTION

This plastic encapsulated transistor is designed for any application requiring high voltage capability at relatively low collector currents.

Complementary to the BSS64.

Encapsulated in the popular SOT-23 package the device is designed specifically for use in thin and thick film hybrid circuits in both industrial and commercial applications.

The Ferranti SOT-23 package is formed by transfer moulding a SILICONE plastic specially selected to provide a rugged one piece encapsulation resistant to severe environments.

SOT-23
Actual size in inset

ABSOLUTE MAXIMUM RATINGS

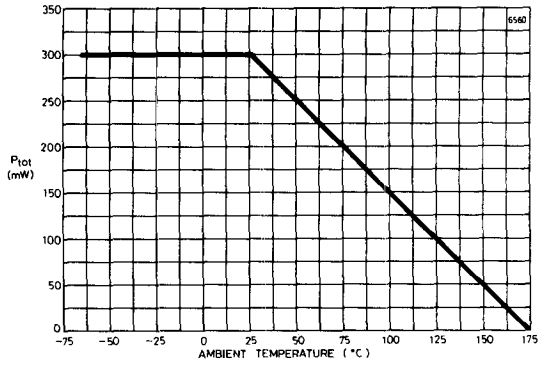
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	−110	V
Collector-Emitter Voltage	V_{CEO}	−100	V
Emitter-Base Voltage	V_{EBO}	−6	V
Collector Current	I_C	100	mA
Power Dissipation (at $T_{amb} = 25°C$)*	P_{tot}	300	mW
Operating and Storage Temperature Range		−65 to +175	°C

*Maximum power dissipation is calculated assuming that the device is mounted on a ceramic substrate measuring 10 × 8 × 0.6mm

BSS63

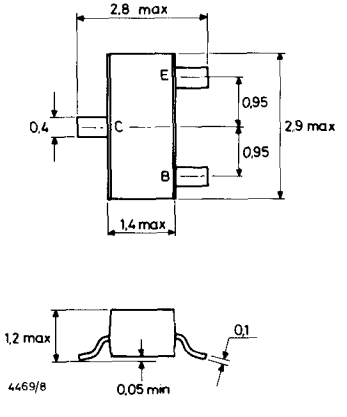
CHARACTERISTICS (at 25°C ambient temperature unless otherwise stated).

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$V_{(BR)CBO}$	−110	—	—	V	$I_C = 10\mu A$
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	−100	—	—	V	$I_C = 100\mu A$
Emitter-base breakdown voltage	$V_{(BR)EBO}$	−6	—	—	V	$I_E = 10\mu A$
Collector cut-off currents	I_{CBO}	—	—	100	nA	$V_{CB} = 90V$, $I_E = 0$
		—	—	50	μA	$V_{CB} = 90V$, $I_E = 0$ $T_j = 150°C$
	I_{EBO}	—	—	200	nA	$V_{EB} = 6V$, $I_C = 0$
Static forward current transfer ratio	h_{FE}	30	—	—		$I_C = 10mA$, $V_{CE} = 1V$
		30	—	—		$I_C = 25mA$, $V_{CE} = 1V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	250	mV	$I_C = 25mA$, $I_B = 2.5mA$
Base-emitter saturation voltage	$V_{BE(sat)}$	—	—	900	mV	$I_C = 25mA$, $I_B = 2.5mA$
Output capacitance	C_{obo}	—	3	—	pF	$V_{CB} = 10V$, $I_E = 0$ $f = 1MHz$
Transition frequency	f_T	50	85	—	MHz	$V_{CE} = 5V$, $I_C = 25mA$ $f = 35MHz$



DERATING CURVE

PACKAGE DETAILS



SOT-23
Dimensions in millimetres

These devices are also available with the base and emitter connections reversed. In this case, the suffix R after the type number is used. All other electrical and physical data remains unchanged.

Devices are identified by an alpha-numerical code stamped on the body of the device as follows:

BSS63	T3
BSS63R	T6

SOT-23 TRANSISTORS & DIODES

PRODUCT LIST AND DEVICE IDENTIFICATION

TRANSISTORS		
Device Type	Standard marking	Reverse Joggle marking
BCV71	K7	K6
BCV72	K8	K9
BCW29	C1	C4
BCW30	C2	C5
BCW31	D1	D4
BCW32	D2	D5
BCW33	D3	D6
BCW60A	AA	—
BCW60B	AB	—
BCW60C	AC	AR
BCW60D	AD	—
BCW61A	BA	CA
BCW61B	BB	CB
BCW61C	BC	CC
BCW61D	BD	CD
BCW65A	EA	—
BCW65B	EB	—
BCW65C	EC	—
BCW66F	EF	7P
BCW66G	EG	5T
BCW66H	EH	—
BCW67A	DA	—
BCW67B	DB	—
BCW67C	DC	—
BCW68F	DF	—
BCW68G	DG	6T
BCW68H	DH	—
BCW69	H1	H4
BCW70	H2	H5
BCW71	K1	K4
BCW72	K2	K5
BCW89	H3	H6
BCX17	T1	T4
BCX18	T2	T5
BCX19	U1	U4
BCX20	U2	U5
BCX70G	AG	—
BCX70H	AH	—
BCX70J	AJ	AX
BCX70K	AK	P9
BCX71G	BG	CG
BCX71H	BH	6P
BCX71J	BJ	J8
BCX71K	BK	CK

TRANSISTORS		
Device Type	Standard marking	Reverse Joggle marking
BFQ31	S2	S3
BFQ31A	S4	S5
BFS20	G1	G4
BSS63	T3	T6
BSS64	U3	U6
BSS65	L1	L5
BSS66	M6	M8
BSS67	M7	M9
BSS69	L2	L6
BSS70	L3	L7
BSS79B	CE	—
BSS79C	CF	—
BSS82B	CL	—
BSS82C	CM	—
BSV52	B2	B4
FMMT-A05	1H	—
FMMT-A06	1G	—
FMMT-A12	3W	—
FMMT-A13	1M	—
FMMT-A14	1N	—
FMMT-A20	1C	—
FMMT-A42	3E	7E
FMMT-A43	1E	5E
FMMT-A55	2H	—
FMMT-A56	2G	—
FMMT-A70	2C	—
FMMT-A92	4E	8E
FMMT-A93	2E	6E
FMMT918	3B	—
FMMT2222	1B	2P
FMMT2222A	1P	3P
FMMT2369	1J	—
FMMT2369A	P5	—
FMMT2484	4G	—
FMMT2907	2B	—
FMMT2907A	2F	5P
FMMT3903	1W	—
FMMT3904	1A	—
FMMT3905	2W	—
FMMT3906	2A	—
FMMT4124	ZC	—
FMMT4125	ZD	—
FMMT5087	2M	3M
HT2	2T	—
HT3	3T	—