

MBT6428

S-MBT6428

Amplifier Transistors NPN Silicon

1. FEATURES

- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.

2. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
MBT6428	1KM	3000/Tape&Reel

3. MAXIMUM RATINGS(Ta = 25°C)

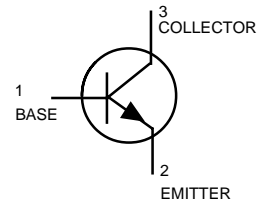
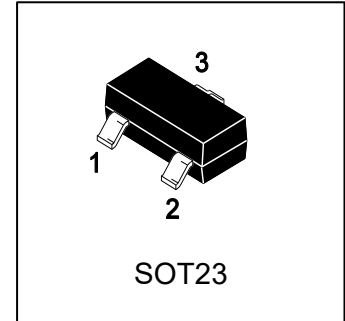
Parameter	Symbol	Limits	Unit
Collector-Emitter Voltage	V _{CEO}	50	V
Collector-Base voltage	V _{CBO}	60	V
Emitter-Base Voltage	V _{EB0}	6	V
Collector current--Continuous	I _C	200	mA

4. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Total Device Dissipation, FR-5 Board (Note 1) @ TA = 25°C Derate above 25°C	PD	225 1.8	mW mW/°C
Thermal Resistance, Junction-to-Ambient	R _{θJA}	556	°C/W
Total Device Dissipation, Alumina Substrate, (Note 2)@ TA = 25°C Derate above 25°C	PD	300 2.4	mW mW/°C
Thermal Resistance, Junction-to-Ambient	R _{θJA}	417	°C/W
Junction and Storage temperature	T _J , T _{stg}	-55~+150	°C

1. FR-5 = 1.0×0.75×0.062 in.

2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.



5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

OFF CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector-Emitter Breakdown Voltage (IC = 1.0 mA, IB = 0)	V(BR)CEO	50	-	-	V
Collector-Base Breakdown voltage (IC = 0.1mA, IE = 0)	V(BR)CBO	60	-	-	V
Collector Emitter Cut-off Current (VCE = 30V)	ICES	-	-	0.1	μA
Collector Cutoff Current (VCB = 30V, IE = 0)	ICBO	-	-	0.01	μA
Emitter Cutoff Current (VEB = 5.0V, IC = 0)	IEBO	-	-	0.01	μA

ON CHARACTERISTICS

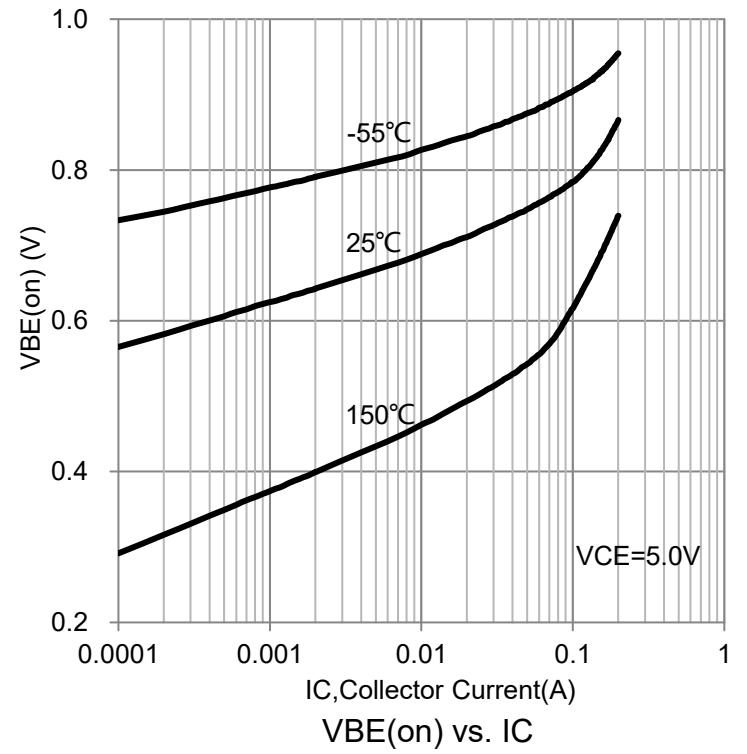
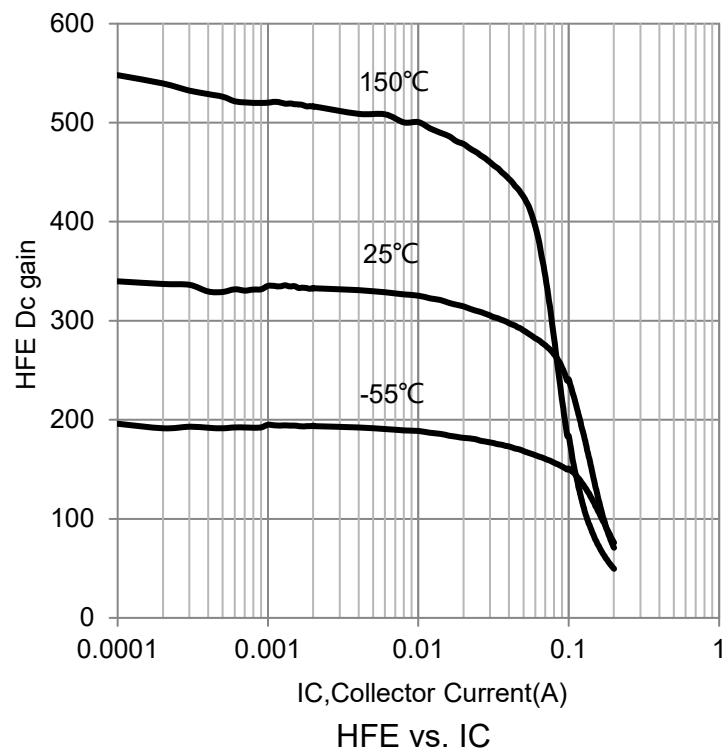
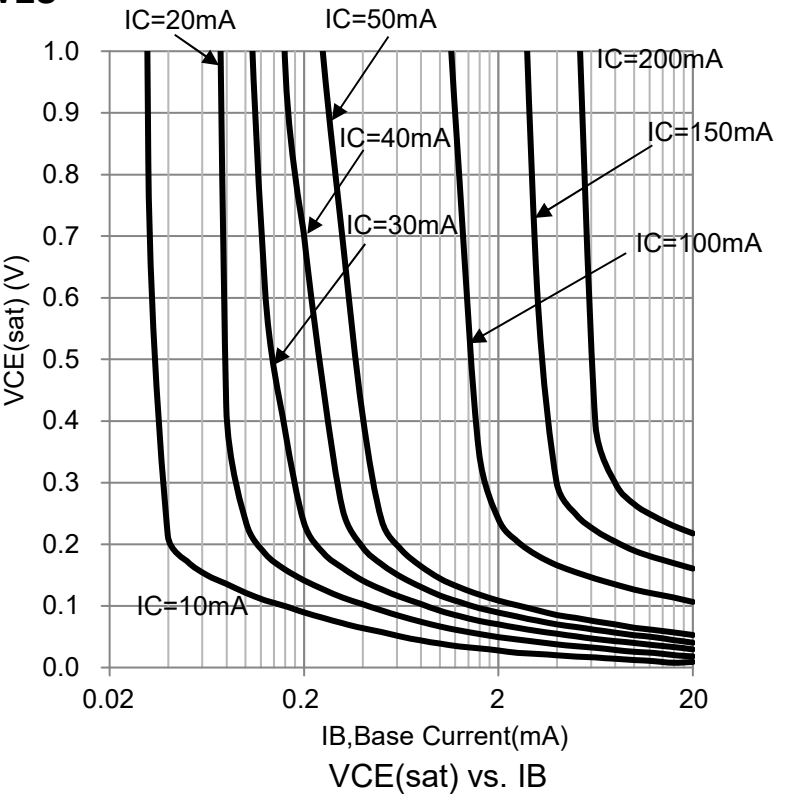
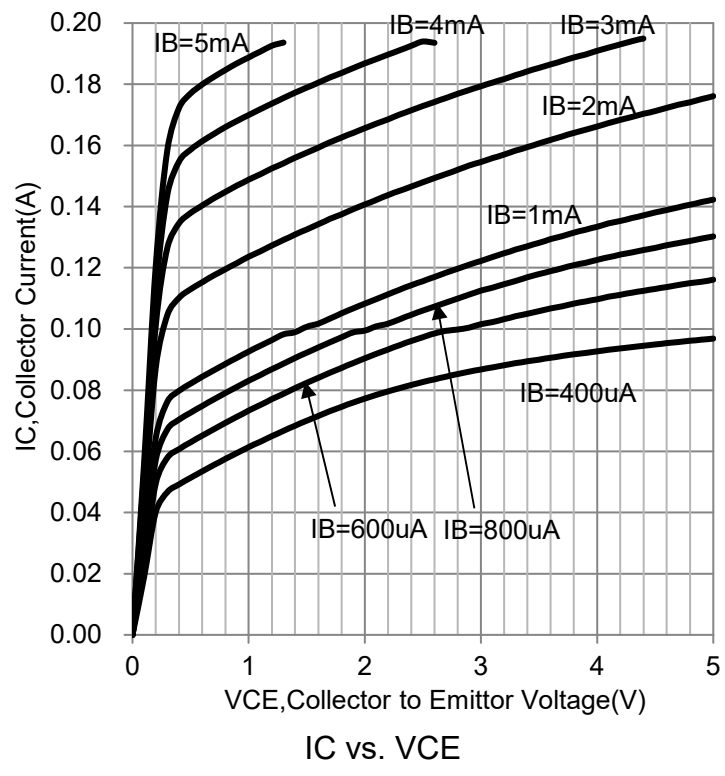
DC Current Gain (IC = 0.01 mA, VCE = 5.0 V)	HFE	250	-	-	
(IC = 0.1 mA, VCE = 5.0 V)		250	-	650	
(IC = 1 mA, VCE = 5.0 V)		250	-	-	
(IC = 10 mA, VCE = 5.0 V)		250	-	-	
Collector-Emitter Saturation Voltage (IC = 10 mA, IB = 0.5 mA)	VCE(S)	-	-	0.2	V
(IC = 100 mA, IB = 5.0 mA)		-	-	0.6	
Base-Emitter On Voltage (IC = 1.0 mA, VCE = 5.0V)	VBE(on)	0.56	-	0.66	V

SMALL-SIGNAL CHARACTERISTICS

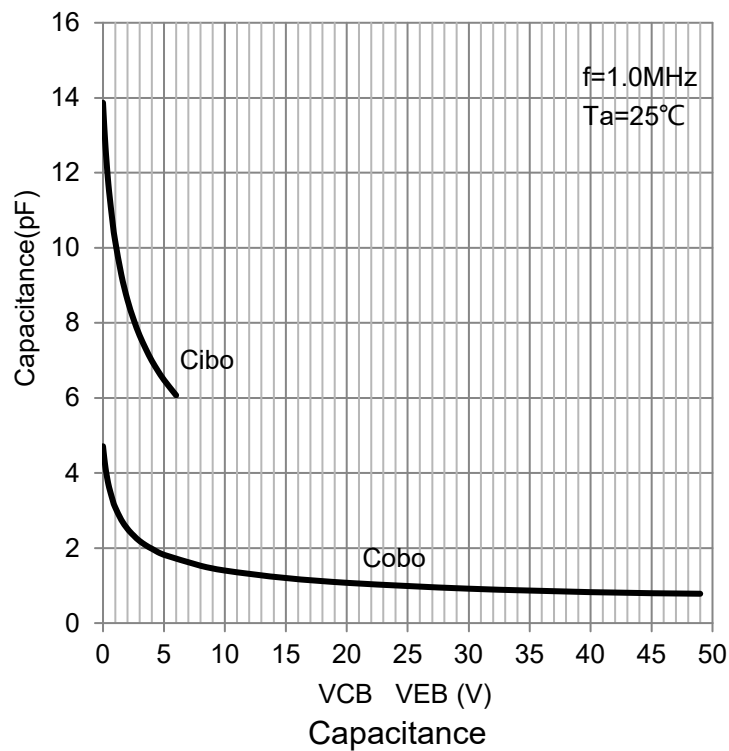
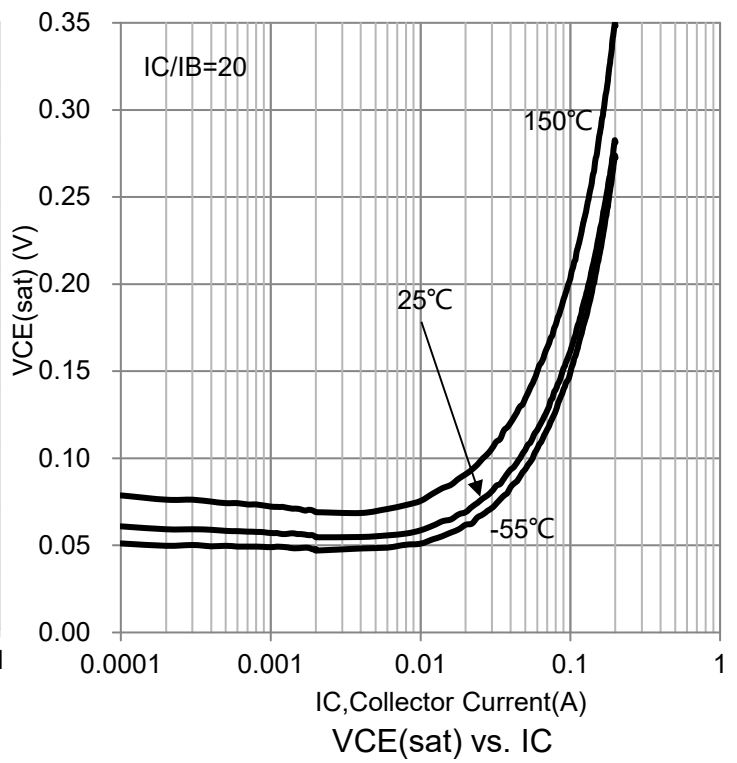
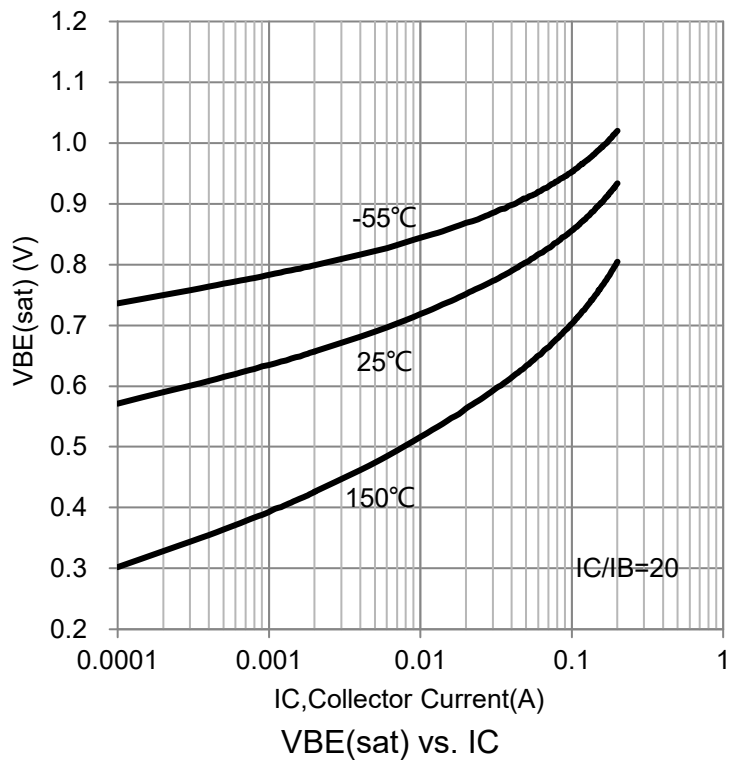
Current-Gain — Bandwidth Product (VCE = 5.0 V, IC = 1.0mA, f = 100 MHz)	fT	100	-	700	MHz
Output Capacitance (VCB = 10 V, IE = 0, f = 1.0 MHz)	Cobo	-	-	3	PF
Input Capacitance (VEB = 0.5 V, IC = 0, f = 1.0 MHz)	Cibo	-	-	8	PF



6.ELECTRICAL CHARACTERISTICS CURVES



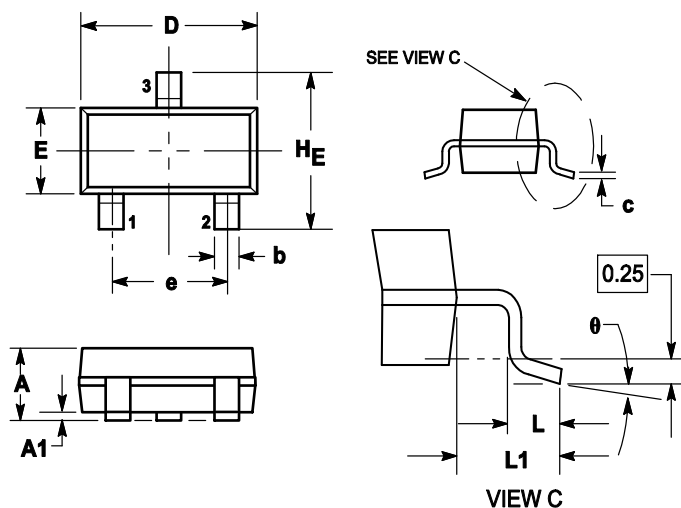
6.ELECTRICAL CHARACTERISTICS CURVES(Con.)



7.OUTLINE AND DIMENSIONS

Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1	1.11	0.035	0.04	0.044
A1	0.01	0.06	0.1	0.001	0.002	0.004
b	0.37	0.44	0.5	0.015	0.018	0.02
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.9	3.04	0.11	0.114	0.12
E	1.20	1.3	1.4	0.047	0.051	0.055
e	1.78	1.9	2.04	0.07	0.075	0.081
L	0.10	0.2	0.3	0.004	0.008	0.012
L1	0.35	0.54	0.69	0.014	0.021	0.029
HE	2.10	2.4	2.64	0.083	0.094	0.104
θ	0°	---	10°	0°	---	10°

8.SOLDERING FOOTPRINT

