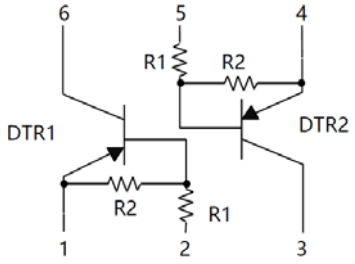
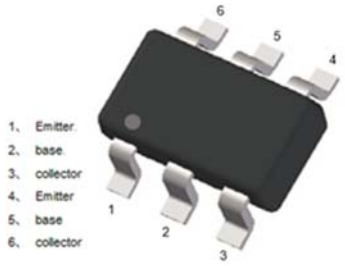
Dual PNP Digital Transistors (Built-in Resistors)





Features

- Moisture sensitivity level 1
- Halogen free and RoHS compliant
- Surface mount package ideally suited for automatic Insertion

Application

- Signal amplification
- Switching circuit

Mechanical data

- **Package**: SOT-363S
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102

■ **Maximum Ratings** (T_a=25℃ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Device marking code				B10
Collector-base voltage	V_{CC}	V		-50
Collector-emitter voltage	V_{IN}	V		-12 to +5
Collector current	I_O	mA		-100
Power dissipation	P_D	mW		150
Operation junction temperature	T_J	℃		-55 to +150
Storage temperature	T_{STG}	℃		-55 to +150

■ Electrical Characteristics (Ta=25℃ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Input voltage	$V_{I(off)}$	V	V_{CC}=-5V,Ic=-100uA	-0.5		
	$V_{I(on)}$	V	V_O=-0.3V,Ic=-5mA			-1.1
Output voltage	$V_{o(on)}$	V	Io /Ii =-5mA/-0.25 mA			-0.3
Input current	I_I	mA	V_I=-5V			-3.6
Output current	$I_{O(off)}$	uA	V_{CC}=-50V, Vi=0			-0.5
DC current gain	G_I		Vo=-5V, Io =-10mA	80		
Input resistance	R_1	kΩ		1.54	2.2	2.86
Resistance ratio	R_2/R_1			17	21	26
Transition frequency	f_T	MHz	V_O=-10V,I_O=5mA,f=100MHz		250	

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	$R_{\theta J-A}$(1)	℃/W	834
Thermal resistance, junction-to-case	$R_{\theta J-C}$(1)	℃/W	667

Note:

（1）Device mounted on PCB, single-sided copper， with standard footprint

■Characteristics

Fig 1：Input Voltage (On) Characteristics

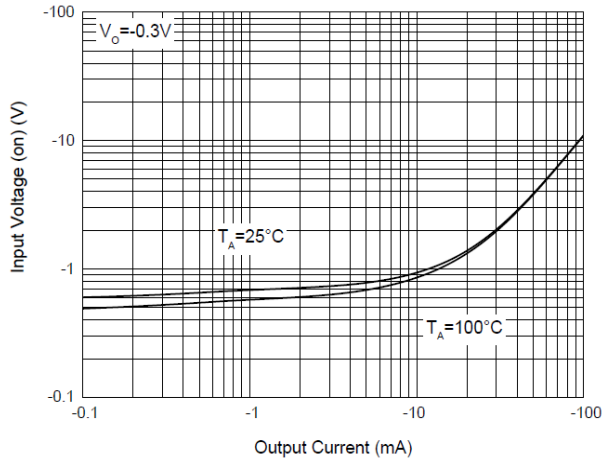


Fig 2：Input Voltage (Off) Characteristic

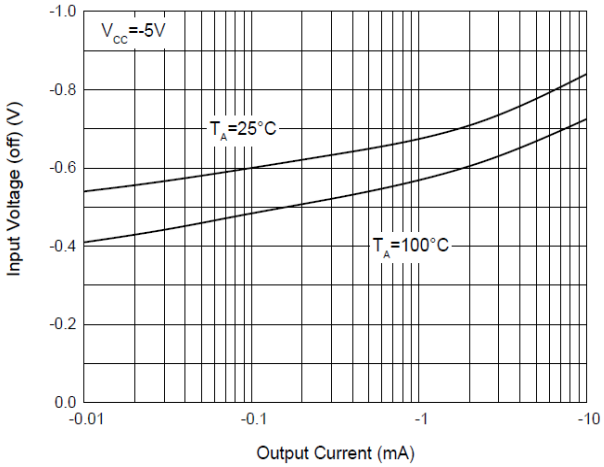


Fig 3：DC Current Gain Characteristics

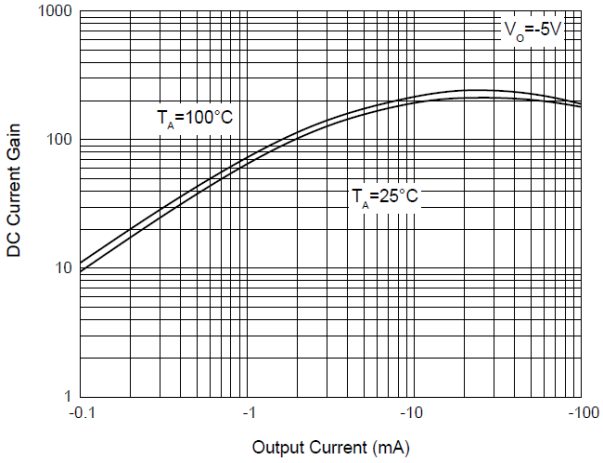


Fig 4：Output Voltage Characteristics

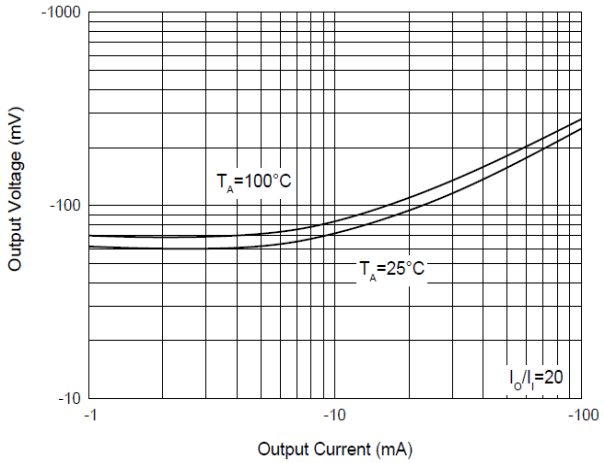
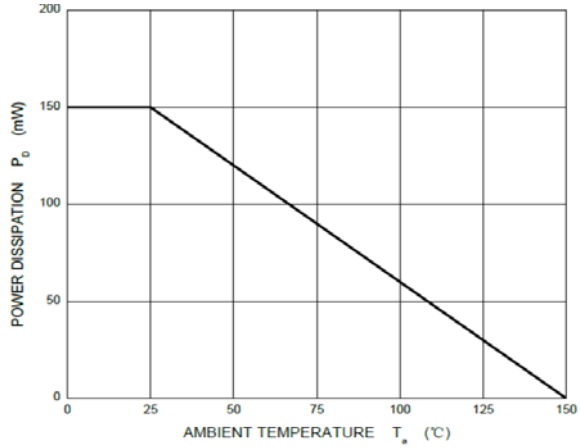


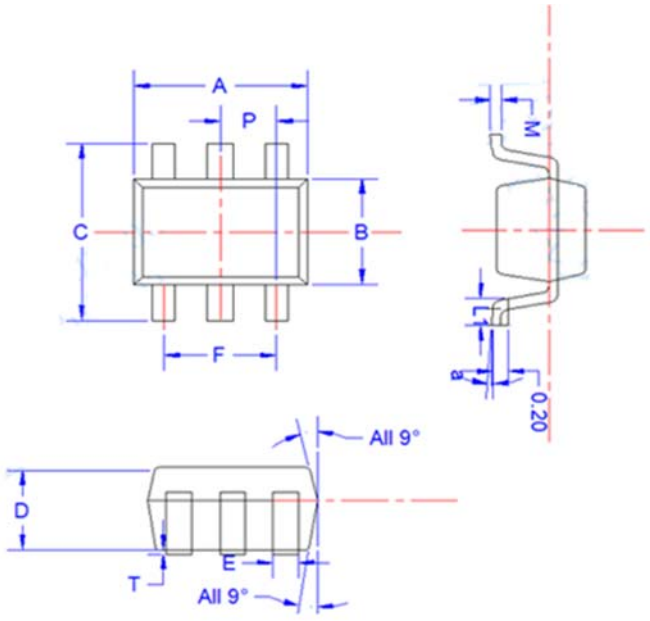
Fig 5：P_D-Ta Curve



■Ordering Information

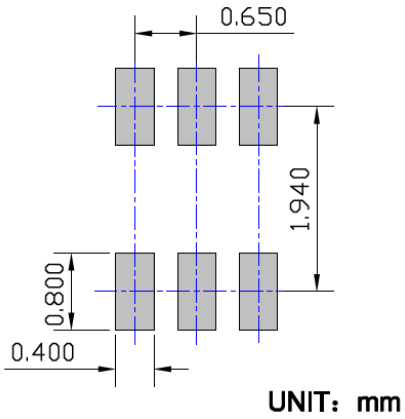
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
UMB10NS	F2	Approximate 0.009	3000	30000	120000	7” reel
UMB10NS	F3	Approximate 0.009	10000	/	210000	7” reel

■ Outline Dimensions



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
E	0.15	0.25	0.35
B	1.15	1.25	1.35
C	2.00	2.10	2.20
P		0.650BSC	
A	1.80	2.00	2.20
T	0.00	0.05	0.100
D	0.90	0.95	1.00
L1	0.20	0.30	0.40
a		4°±4°	
M	0.10	0.15	0.25

■ Suggested Pad Layout



UNIT：mm

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