



Surface mount package ideally suited for automatic insertion

### Application

Signal amplification  
Switching circuit

### Mechanical

**Maximum Ratings** ( $T_a=25$  Unless otherwise specified)

#### DTR1-NPN

Item	Symbol	Unit	Conditions	Value
Device marking code				D6
Collector-base voltage	$V_{CBO}$	V	$I_C=50\mu A$	50
Collector-emitter voltage	$V_{CEO}$	V	$I_C=1mA$	50
Emitter-base voltage	$V_{EBO}$	V	$I_E=50\mu A$	5
Collector current	$I_C$	mA		100
Power dissipation	$P_D$	mW		150
Junction temperature	$T_J$			-55 to +150
Storage temperature	$T_{STG}$			-55 to +150

**DTR2-PNP**

Item	Symbol	Unit	Conditions	Value
Collector-base voltage	$V_{CBO}$	V	$I_C=-50\mu A$	-50
Collector-emitter voltage	$V_{CEO}$	V	$I_C=-1mA$	-50
Emitter-base voltage	$V_{EBO}$	V	$I_E=-50\mu A$	-5
Collector current	$I_C$	mA		-100
Junction temperature	$T_J$			-55 to +150
Storage temperature	$T_{STG}$			-55 to +150

**Electrical Characteristics** ( $T_a=25$  Unless otherwise specified)**DTR1-NPN**

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	$V_{(BR)CBO}$	V	$I_C=50\mu A$	50		
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	V	$I_C=1mA$	50		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	V	$I_E=50\mu A$	5		
Collector-base cut-off current	$I_{CBO}$	$\mu A$	$V_{CB}=50V$			0.5
Emitter-base cut-off current	$I_{EBO}$	$\mu A$	$V_{EB}=4V$			0.5
DC current gain	$h_{FE}$		$V_{CE}=5V, I_C=1mA$	100		600
Input resistance	$R_1$	k		3.29	4.7	6.11
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C=10mA, I_B=0.5mA$			0.3
Transition frequency	$f_T$	MHz	$V_{CE}=10V, I_E=-5mA, f=100MHz$		250	



## Characteristics

### DTR1-NPN

Fig 1 Static Characteristics

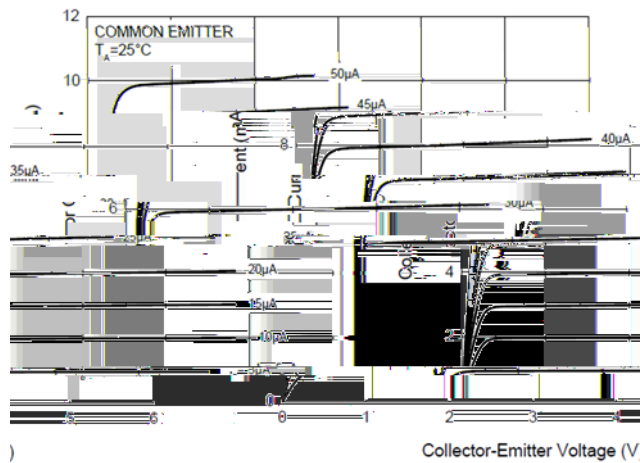


Fig 2 DC Current Gain Characteristics

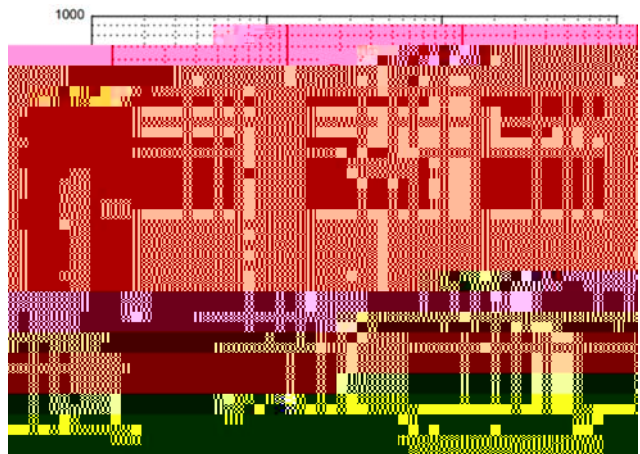


Fig 3 Collector-Emitter Saturation Voltage

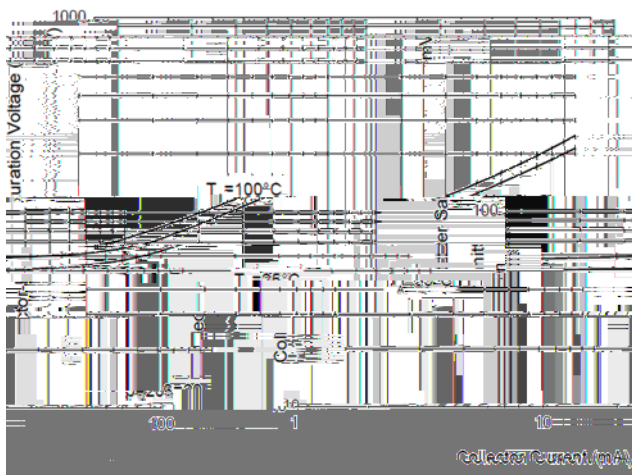
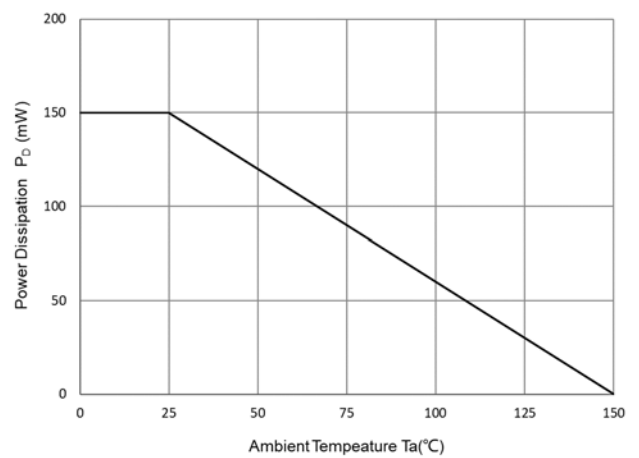


Fig 4  $P_D$ - $T_a$  Curve



DTR2-PNP

Fig 4 Static Characteristics

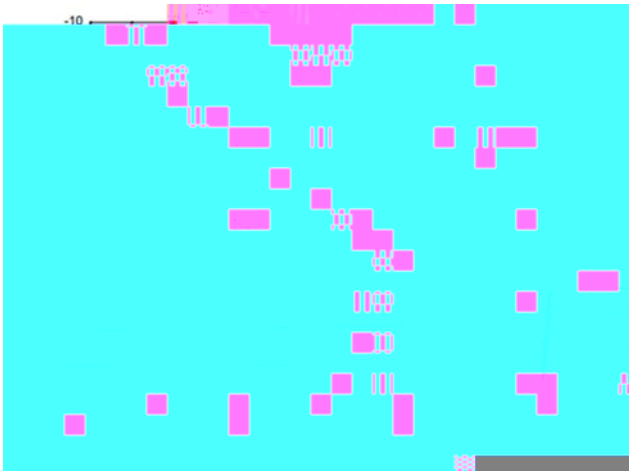


Fig 5 DC Current Gain Characteristics

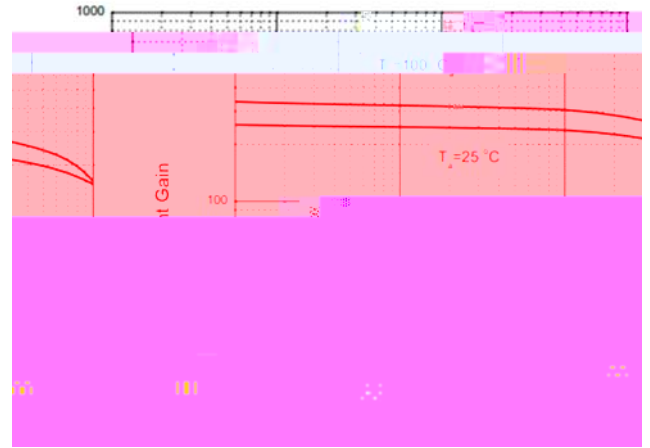
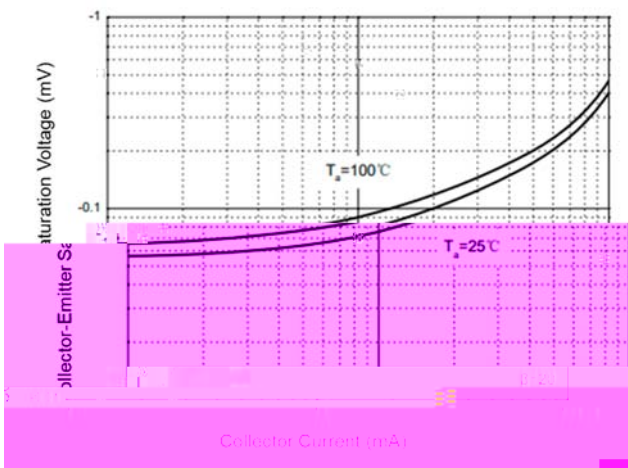


Fig 6 Collector-Emitter Saturation Voltage

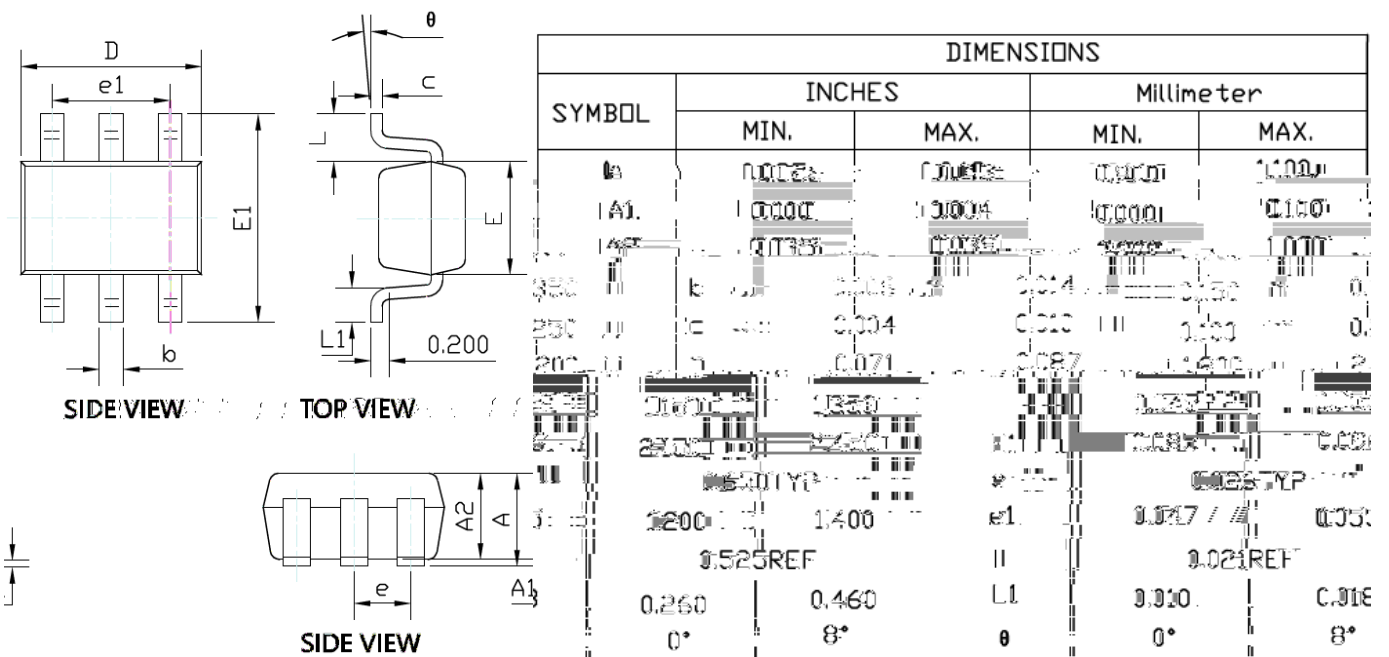




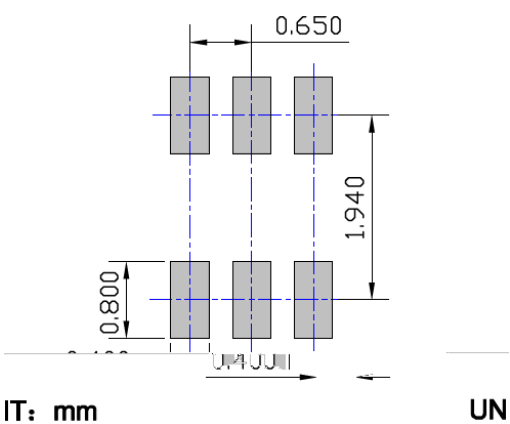
## Ordering Information

Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
UMD6N	F2	Approximate 0.009	3000	30000	120000	7" reel
UMD6N	F3	Approximate 0.009	10000	/	210000	7" reel

## Outline Dimensions



## Suggested Pad Layout





## Disclaimer

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