



Micro Commercial Components



Micro Commercial Components  
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# DMMT3906

## PNP Small Signal Transistors

### Features

- Halogen free available upon request by adding suffix "-HF"
- Epitaxial Planar Die Construction
- Ultra-small surface mount package
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Marking: K3Q

### Maximum Ratings

Symbol	Parameter	Rating	Unit
$V_{CE0}$	Collector-Emitter Voltage	-40	V
$V_{CB0}$	Collector-Base Voltage	-40	V
$V_{EB0}$	Emitter-Base Voltage	-5.0	V
$I_C$	Collector Current-Continuous <sup>(1)</sup>	-200	mA
$P_C$	Power dissipation <sup>(1)</sup>	200	mW
$R_{THJA}$	Thermal Resistance	625	$^{\circ}C/W$
$T_J$	Junction Temperature	-55 to +150	$^{\circ}C$
$T_{STG}$	Storage Temperature	-55 to +150	$^{\circ}C$

### Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
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#### OFF CHARACTERISTICS <sup>(2)</sup>

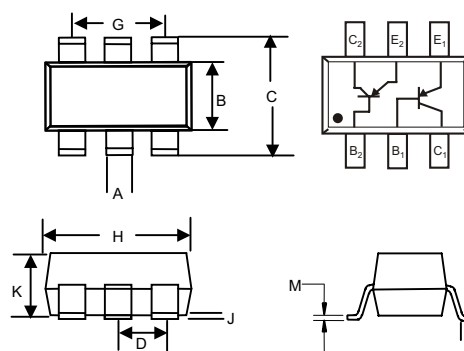
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ( $I_C=-1.0mA$ , $I_B=0$ )	-40	---	Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_C=-10\mu A$ , $I_E=0$ )	-40	---	Vdc
$V_{(BR)EBO}$	Collector-Emitter Breakdown Voltage ( $I_E=-10\mu A$ , $I_C=0$ )	-5.0	---	Vdc
$I_{CEX}$	Collector-Base Cutoff Current ( $V_{CE}=-30Vdc$ , $V_{EB(OFF)}=-3.0Vdc$ )	---	-50	nAdc
$I_{BL}$	Emitter-Base Cutoff Current ( $V_{CE}=-30Vdc$ , $V_{EB(OFF)}=-3.0Vdc$ )	---	-50	nAdc

#### ON CHARACTERISTICS <sup>(2)</sup>

$h_{FE}$	DC Current Gain ( $I_C=-100\mu A$ , $V_{CE}=-1.0Vdc$ ) ( $I_C=-1.0mA$ , $V_{CE}=-1.0Vdc$ ) ( $I_C=-10mA$ , $V_{CE}=-1.0Vdc$ ) ( $I_C=-50mA$ , $V_{CE}=-1.0Vdc$ ) ( $I_C=-100mA$ , $V_{CE}=-1.0Vdc$ )	60 80 100 60 30	---	---
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_C=-10mA$ , $I_B=-1.0mA$ ) ( $I_C=-50mA$ , $I_B=-5.0mA$ )	---	-0.25 -0.40	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ( $I_C=-10mA$ , $I_B=-1.0mA$ ) ( $I_C=-50mA$ , $I_B=-5.0mA$ )	-0.65 ---	-0.85 -0.95	Vdc

Note: 1. Valid provided that terminals are kept at ambient temperature.

### SOT-363



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.006	.014	0.15	0.35	
B	.045	.053	1.15	1.35	
C	.085	.096	2.15	2.45	
D	.026		0.65Nominal		
G	.047	.055	1.20	1.40	
H	.071	.087	1.80	2.20	
J	---	.004	---	0.10	
K	.035	.043	0.90	1.10	
L	.010	.018	0.26	0.46	
M	.003	.006	0.08	0.15	

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## SMALL SIGNAL CHARACTERISTICS

$C_{obo}$	Output Capacitance ( $V_{CB}=-5.0Vdc, f=1.0MHz, I_E=0$ )	---	4.5	pF
$f_T$	Current Gain-Bandwidth Product ( $V_{CE}=-20Vdc, I_C=-10mAdc, f=100MHz$ )	250	---	MHz

## SWITCHING CHARACTERISTICS

$t_d$	Delay Time	$V_{CC}=-3.0Vdc, I_C=-10mAdc,$	---	35	ns
$t_r$	Rise Time	$V_{BE(off)}=0.5Vdc, I_{B1}=-1.0mAdc$	---	35	ns
$t_s$	Storage Time	$V_{CC}=-3.0Vdc, I_C=-10mAdc,$	---	225	ns
$t_f$	Fall Time	$I_{B1}=I_{B2}=-1.0mAdc$	---	75	ns

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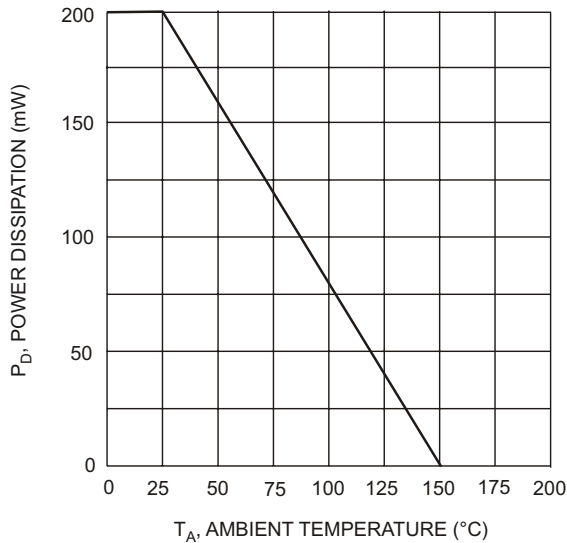


Fig. 1, Max Power Dissipation vs Ambient Temperature

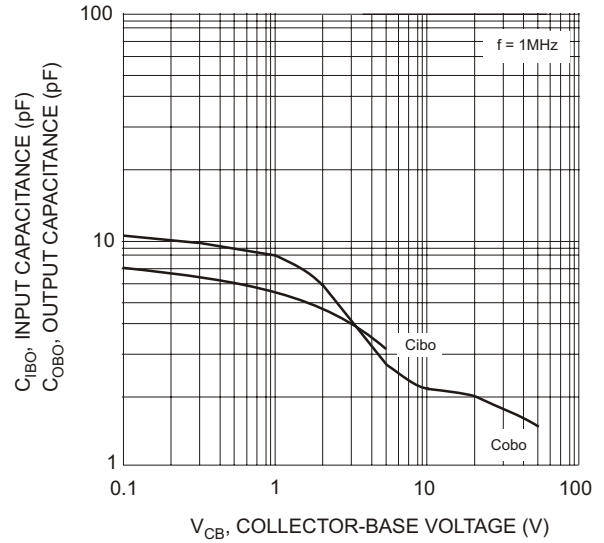


Fig. 2, Input and Output Capacitance vs. Collector-Base Voltage

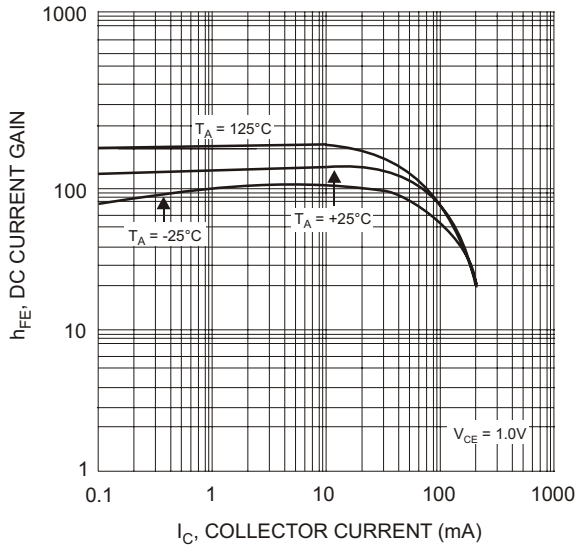


Fig. 3, Typical DC Current Gain vs Collector Current

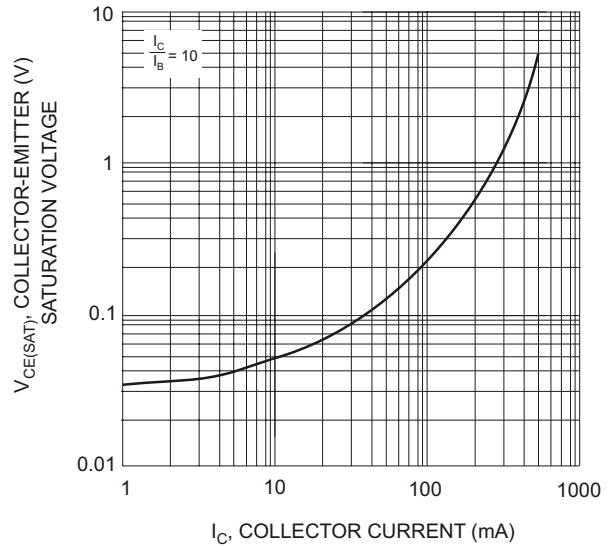


Fig. 4, Typical Collector-Emitter Saturation Voltage vs. Collector Current

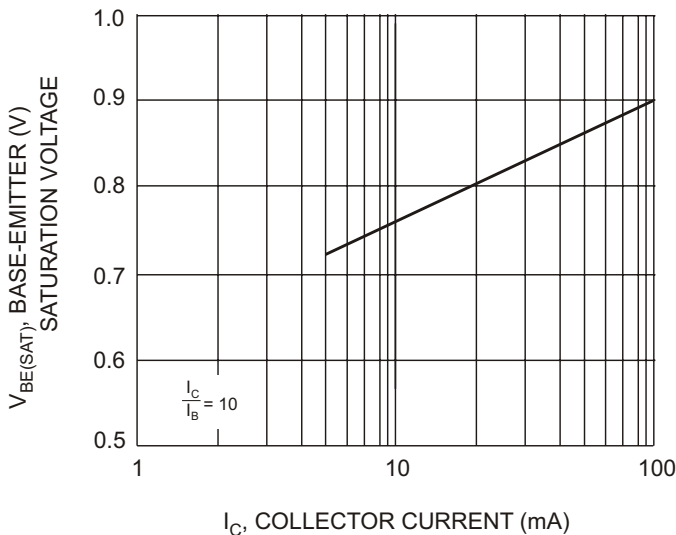


Fig. 5, Typical Base-Emitter Saturation Voltage vs. Collector Current



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### Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel; 3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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- Консультации по применению компонента;
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- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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