

M·C·C·

Micro Commercial Components



Micro Commercial Components
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DMMT3906

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_{CEO}	Collector-Emitter Voltage	-40	V
V_{CBO}	Collector-Base Voltage	-40	V
V_{EBO}	Emitter-Base Voltage	-5.0	V
I_C	Collector Current-Continuous ⁽¹⁾	-200	mA
P_C	Power dissipation ⁽¹⁾	200	mW
R_{THJA}	Thermal Resistance	625	$^{\circ}\text{C}/\text{W}$
T_J	Junction Temperature	-55 to +150	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics @ 25°C Unless Otherwise Specified

Symbol	Parameter	Min	Max	Units
OFF CHARACTERISTICS⁽²⁾				
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ($I_C=1.0\text{mA}$, $I_B=0$)	-40	---	Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ($I_C=-10\text{uA}$, $I_E=0$)	-40	---	Vdc
$V_{(BR)EBO}$	Collector-Emitter Breakdown Voltage ($I_E=-10\text{uA}$, $I_C=0$)	-5.0	---	Vdc
I_{CEX}	Collector-Base Cutoff Current ($V_{CE}=-30\text{Vdc}$, $V_{EB(OFF)}=-3.0\text{Vdc}$)	---	-50	nAdc
I_{BL}	Emitter-Base Cutoff Current ($V_{CE}=-30\text{Vdc}$, $V_{EB(OFF)}=-3.0\text{Vdc}$)	---	-50	nAdc

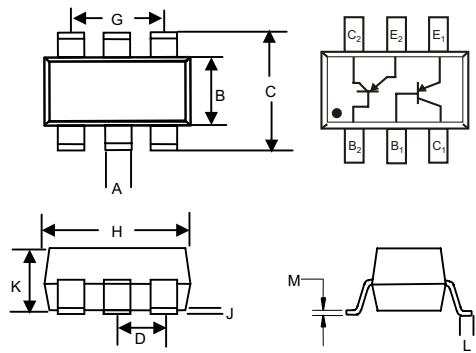
ON CHARACTERISTICS⁽²⁾

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

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

PNP Small Signal Transistors

SOT-363



DIMENSIONS

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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DMMT3906**SMALL SIGNAL CHARACTERISTICS**

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

SWITCHING CHARACTERISTICS

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

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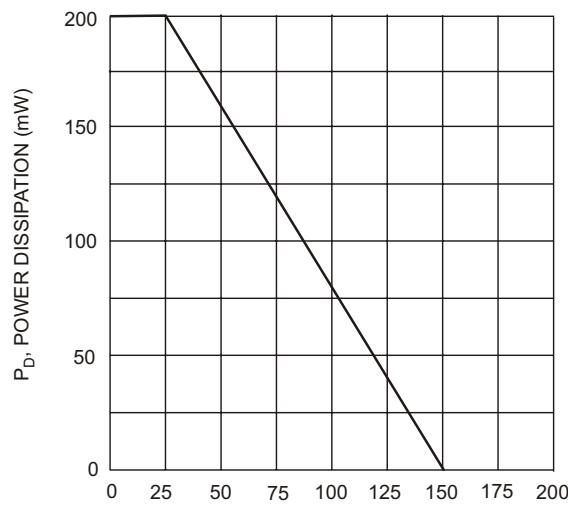


Fig. 1, Max Power Dissipation vs.
Ambient Temperature

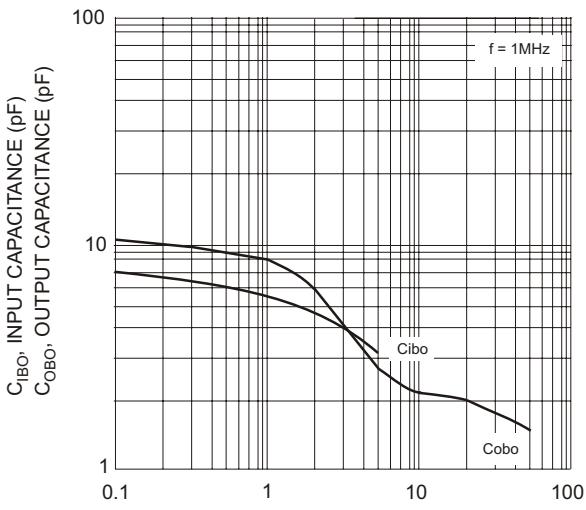


Fig. 2, Input and Output Capacitance vs.
Collector-Base Voltage

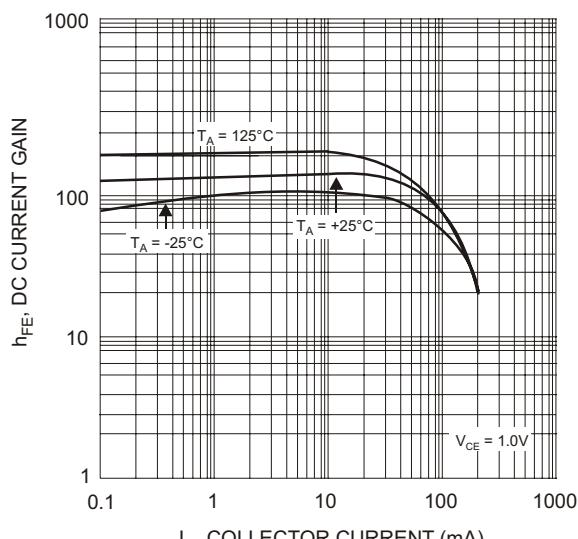


Fig. 3, Typical DC Current Gain vs.
Collector Current

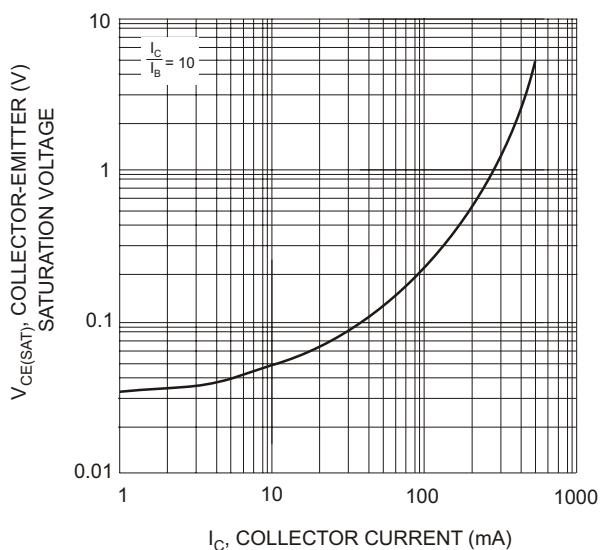


Fig. 4, Typical Collector-Emitter Saturation Voltage
vs. Collector Current

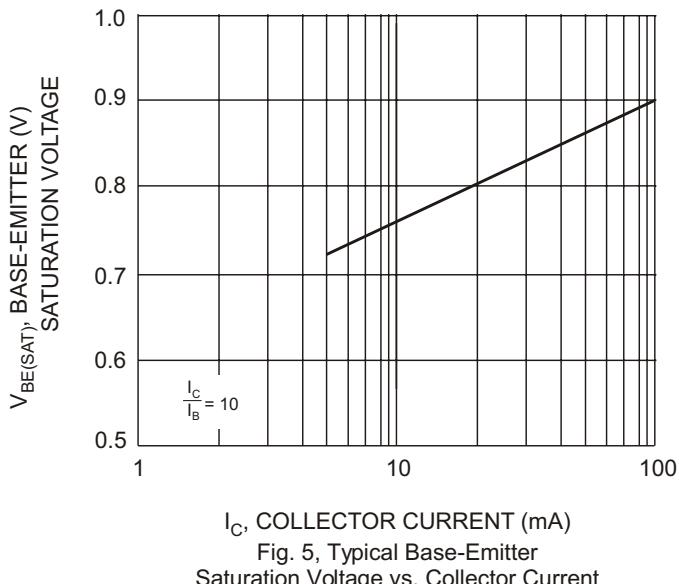


Fig. 5, Typical Base-Emitter
Saturation Voltage vs. Collector Current



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Ordering Information :

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

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

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