MOSPEC

COMPLEMENTARY SILICON POWER TRANSISTORS

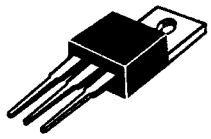
...designed for various specific and general purpose application such as;output and driver stages of amplifiers operating at frequencies from DC to greater than 1.0MHz series,shunt and switching regulators; low and high frequency inverters/converters and many others.

FEATURES:

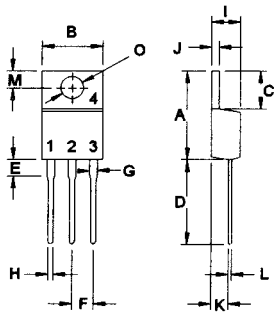
* Very Low Collector Saturation Voltage
* Excellent Linearity
* Fast Switching
* PNP Values are Negative,Observe Proper Polarity.

NPN D44VM Series **PNP D45VM Series**

8 AMPERE
COMPLEMENTARY SILICON
POWER TRANSISTORS
30-80 VOLTS
50 WATTS



TO-220



PIN 1.BASE
2.COLLECTOR
3.EMITTER
4.COLLECTOR(CASE)

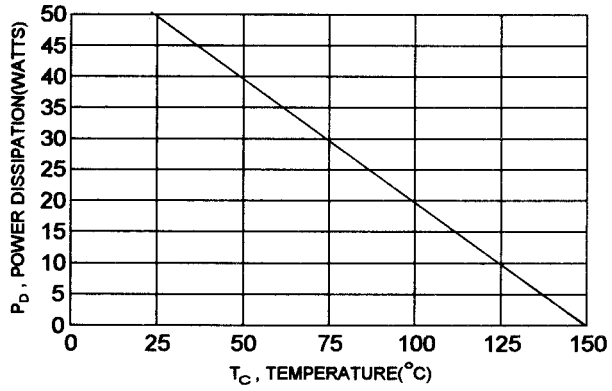
MAXIMUM RATINGS

Characteristic	Symbol	D44VM1 D45VM1	D44VM4 D45VM4	D44VM7 D45VM7	D44VM10 D45VM10	Unit
Collector-Emitter Voltage	V_{CEO}	30	45	60	80	V
Collector-Emitter Voltage	V_{CEV}	50	70	80	100	V
Emitter-Base Voltage	V_{EBO}	7.0				V
Collector Current - Continuous Peak	I_C I_{CM}	8.0 16				A
Base Current	I_B	1.5				A
Total Power Dissipation @T_C = 25°C Derate above 25 °C	P_D	50 0.4				W W/°C
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-55 to +150				°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance Junction to Case	Rθjc	2.5	°C/W

FIGURE -1 POWER DERATING



DIM	MILLIMETERS	
	MIN	MAX
A	14.68	15.31
B	9.78	10.42
C	5.01	6.52
D	13.06	14.62
E	3.57	4.07
F	2.42	3.66
G	1.12	1.36
H	0.72	0.96
I	4.22	4.98
J	1.14	1.38
K	2.20	2.97
L	0.33	0.55
M	2.48	2.98
O	3.70	3.90

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Base Cutoff Current (V_{CEV}= Rated Value, $v_{BE(OFF)}$ =4.0 V) (V_{CEV}= Rated Value, $v_{BE(OFF)}$ =4.0 V , T_C=100 °C)	I_{CEV}		 10 100	uA
Emitter-Base Cutoff Current (V_{BE}= 7.0 V, I_C = 0)	I_{EBO}		 10	uA
ON CHARACTERISTICS(1)				
DC Current Gain (I_C= 4.0 A, V_{CE}= 1.0 V) D44VM Series D45VM Series (I_C= 6.0 A, V_{CE}= 1.0 V) D44VM Series (I_C= 8.0 A, V_{CE}= 1.0 V) D45VM Series	hFE	 40 20 20 10		
Collector-Emitter Saturation Voltage (I_C= 4.0 A, I_B= 400 mA) (I_C= 8.0 A, I_B= 800 mA) (I_C= 8.0 A, I_B= 800 mA, T_C =100 °C)	$V_{CE(sat)}$		 0.8 1.2 1.5	V
Base-Emitter Saturation Voltage (I_C= 8.0 A, I_B= 800 mA) (I_C= 8.0 A, I_B= 800 mA, T_C =100 °C)	$V_{BE(sat)}$		 1.5 1.6	V
DYAMIC CHARATERISTICS				
Current-Gain Bandwidth Product (2) (I_C= 100 mA, V_{CE}= 10 V, f = 1.0 MHz)	f_T	30(typ)		MHz

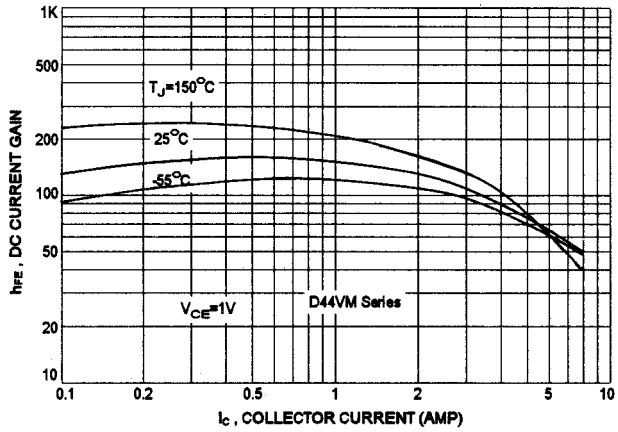
SWITCHING CHARATERISTICS

Rise Time	V_{CC}=30V	D44VM Series D45VM Series	t_r		0.5 0.6	us
Storage Time	I_C= 8A,	D44VM Series D45VM Series	t_s		1.3 1.1	us
Fall Time	I_{B1}= -I_{B2} = 800mA	D44VM Series D45VM Series	t_f		0.4 0.5	us

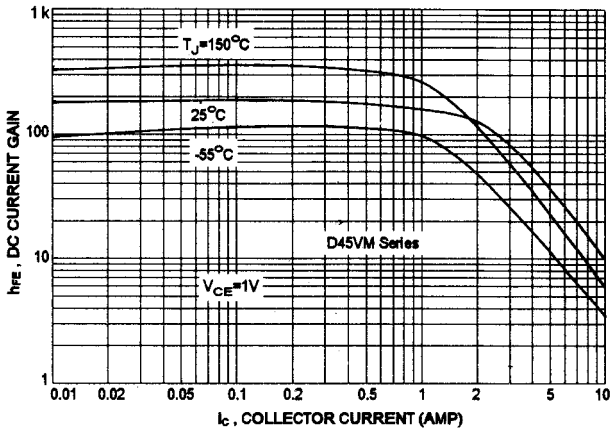
(1) Pulse Test: Pulse width = 300 us , Duty Cycle ≦ 2.0%

(2) $f_T = |h_{fe}| \cdot f_{test}$

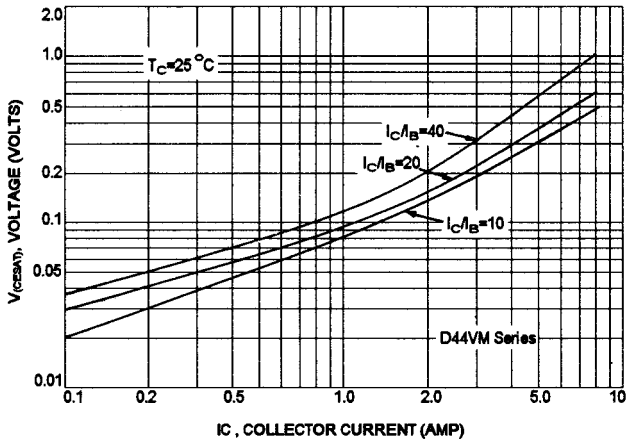
DC CURRENT GAIN



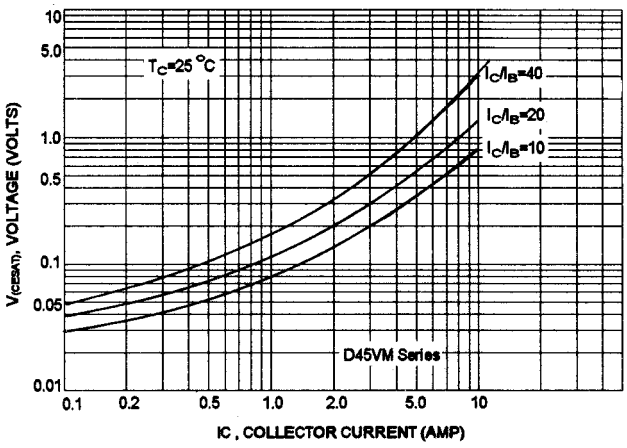
DC CURRENT GAIN



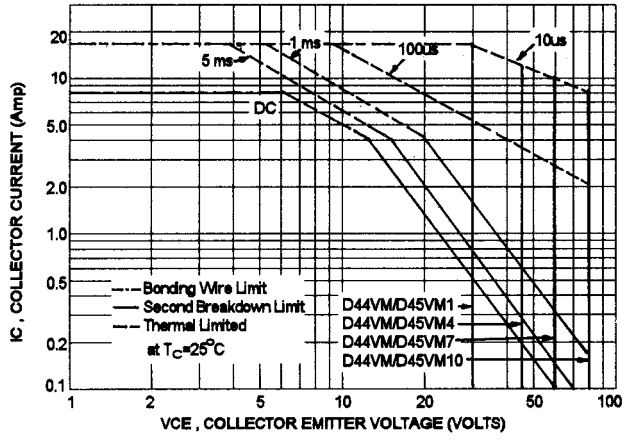
COLLECTOR-EMITTER SATURATION VOLTAGE



COLLECTOR-EMITTER SATURATION VOLTAGE



D44VM/D45VM
FORWARD-BIAS SAFE OPERATING AREA



D44VM/D45VM
REVERSE-BIAS SAFE OPERATING AREA