

Epoxy meets UL-94 V-0 flammability rating
 Halogen free available upon request by adding suffix "HF"
 Moisture sensitivity level 1
 Low collector-emitter saturation voltage

: SOT-89
 Molding compound meets UL 94 V-0 flammability rating,
 RoHS-compliant, halogen-free
 Tin plated leads, solderable per
 J-STD-002 and JESD22-B102
 Marking:

2SD1766-Q	DBQ
2SD1766-R	DBR

($T_a=25$ unless otherwise noted)

Parameter	Symbol	Unit	Conditions	Value
Minimum Collector-Emitter Voltage	V_{CEO}	V	$I_C=1mA, I_B=0$	32
Minimum Collector-Base Voltage	V_{CBO}	V	$I_C=50\mu A, I_E=0$	40
Minimum Emitter-Base Voltage	V_{EBO}	V	$I_E=50\mu A, I_C=0$	5
Collector Current	I_C	A		2
Collector Power Dissipation	P_C	mW		500
Thermal Resistance From Junction To Ambient	R_{JA}	/W		250
Operation Junction Temperature	T_j			-55 to +150
Storage Temperature	T_{stg}			-55 to +150



(Ta=25 unless otherwise noted)

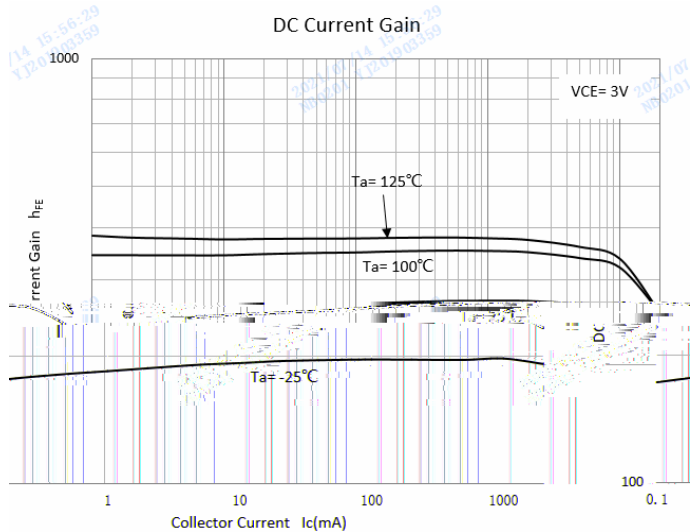
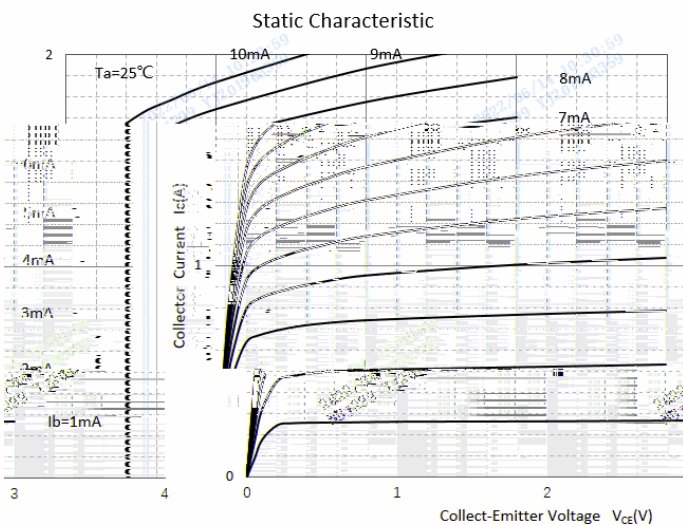
Collector-Emitter Voltage	V_{CEO}	V	$I_C=1mA, I_B=0$	32		
Collector-Base Voltage	V_{CBO}	V	$I_C=50\mu A, I_E=0$	40		
Emitter-Base Voltage	V_{EBO}	V	$I_E=50\mu A, I_C=0$	5		
Collector-Base cut-off current	I_{CBO}	μA	$V_{CB}=20V$			1
Emitter-Base cut-off current	I_{EBO}	μA	$V_{EB}=4V$			1
DC Current Gain	h_{FE}		$V_{CE}=3V, I_C=500mA$	120		390
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	V	$I_C=2A, I_B=200mA$			0.8
Transition Frequency	f_T	MHz	$I_C=50mA, V_{CE}=5V, f=100MHz$		100	
Output Capacitance	C_{ob}	pF	$V_{CB}=10V, I_E=0, f=1MHz$		30	

(Example)

2SD1766	F2	Approximate 0.055	1000	8000	32000	7" reel
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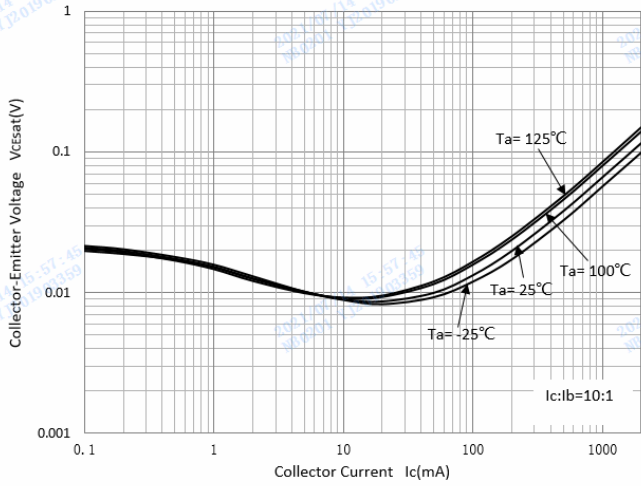
Range	120-270	180-390
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(Typical)

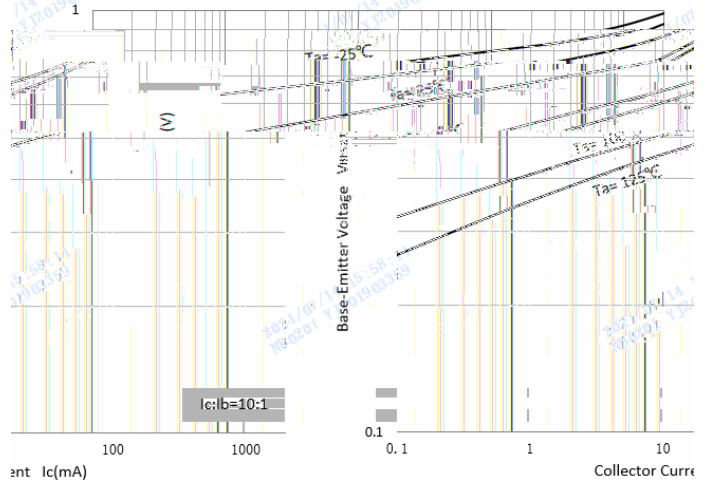




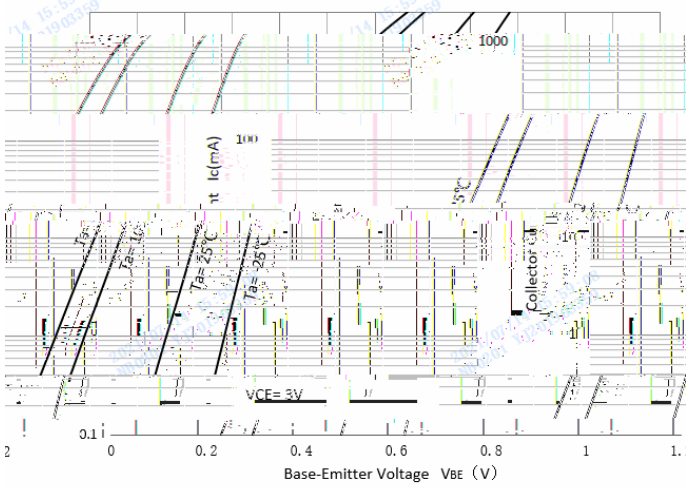
Collector-Emitter Saturation Voltage



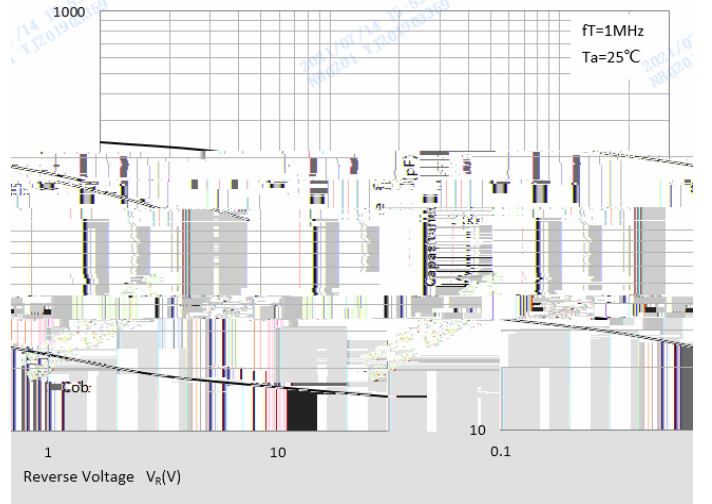
Base-Emitter Saturation Voltage



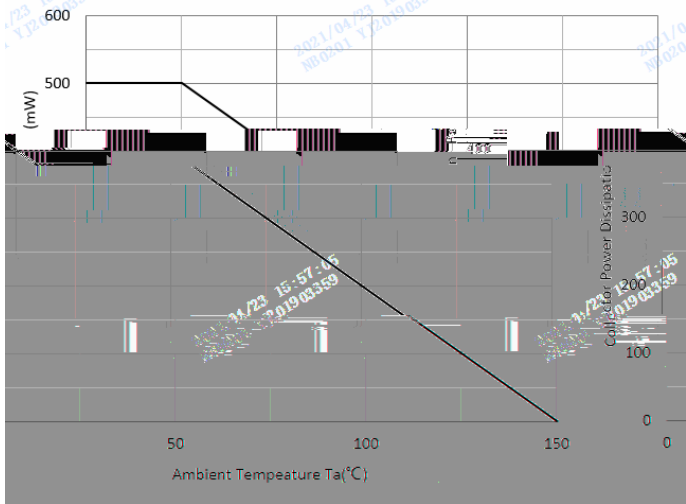
Base-Emitter On Voltage

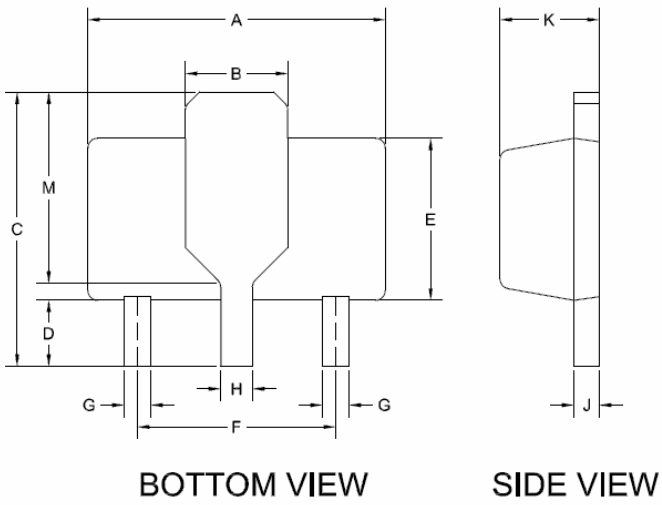


$C_{ob}/C_{ib}-V_{CE}/V_{EB}$



Collector Power Derating Curve





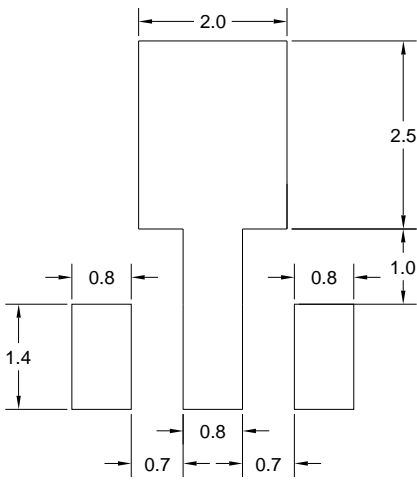
BOTTOM VIEW

SIDE VIEW



SIDE VIEW

DIM	DIMENSIONS			
	INCHES		MM	
	MIN.	MAX.	MIN.	MAX.
A	0.173	0.181	4.400	4.600
B	0.061 TYP.		1.550 TYP.	
C	0.155	0.167	3.940	4.250
D	0.031	0.047	0.800	1.200
E	0.094	0.102	2.400	2.600
F	0.118 TYP.		3.00 TYP.	
G	0.014	0.019	0.360	0.480
H	0.560	0.617	0.022	0.470
J	0.440	0.014	0.017	0.350
K	1.600	0.055	0.063	1.400
M	2.750 TYP.		0.108 TYP.	



UNIT:MM



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