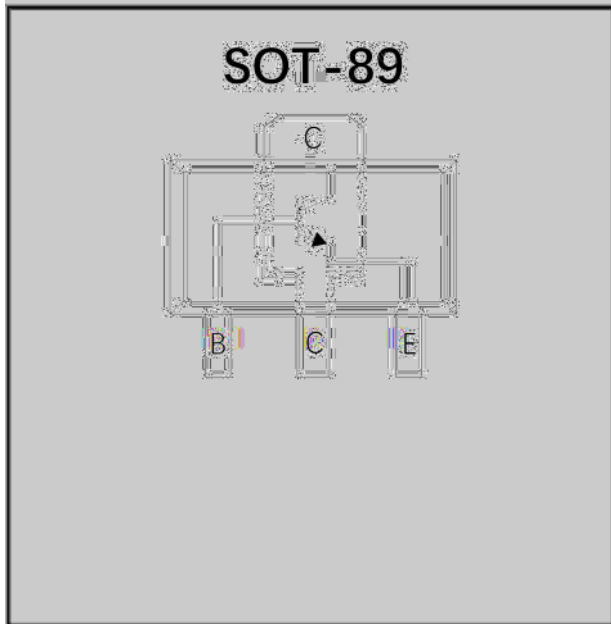


NPN General Purpose Amplifier



Features

- 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

Mechanical Data

Package: SOT-89

Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free

Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102

Marking:

2SD1766-Q	DBQ
2SD1766-R	DBR

Maximum Ratings (Ta=25 - unless otherwise noted)

Item	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



2SD1766

Electrical Characteristics (Ta=25 unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	TYP	Max
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	

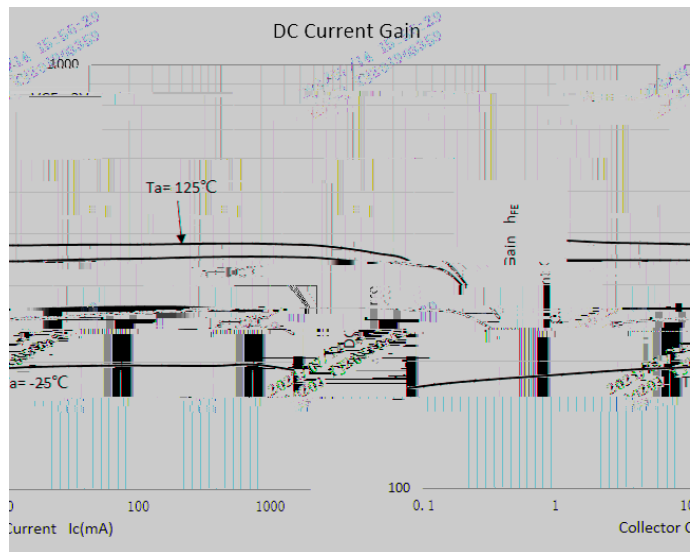
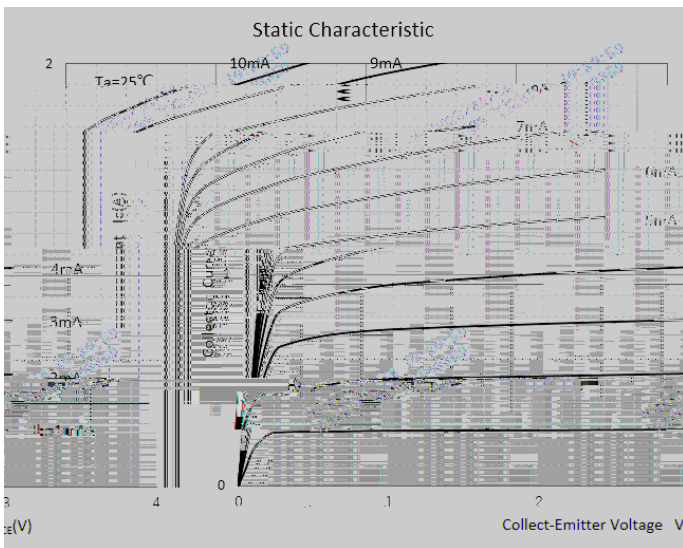
Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
2SD1766	F2	Approximate 0.055	1000	8000	32000	7" reel

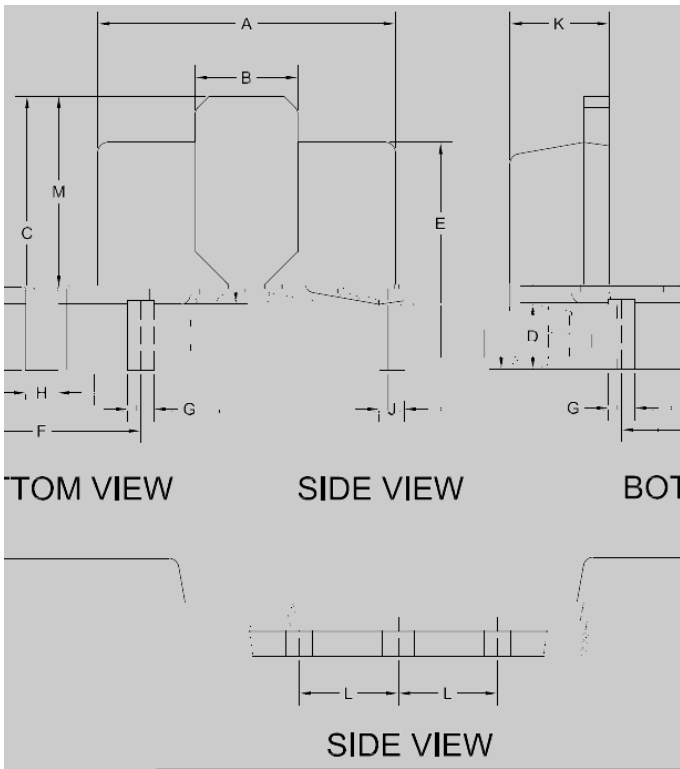
Classification of h_{FE}

Rank	2SD1766-Q	2SD1766-R
Range	120-270	180-390

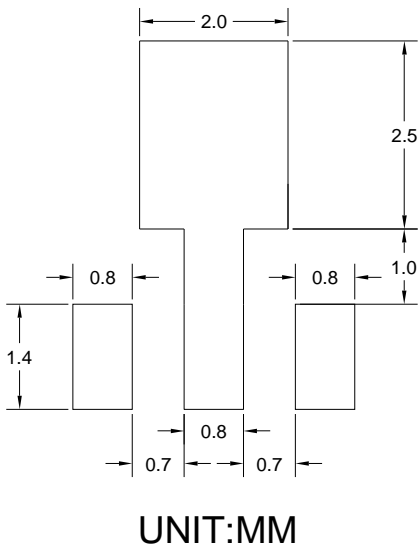
Characteristics (Typical)



SOT-89 Package Outline Dimensions



SOT-89 Suggested Pad Layout





Disclaimer

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