

**M·C·C·**

Micro Commercial Components



Micro Commercial Components  
20736 Marilla Street Chatsworth  
CA 91311  
Phone: (818) 701-4933  
Fax: (818) 701-4939

**2SD1815-Q  
2SD1815-R  
2SD1815-S  
2SD1815-T**

## Features

- Halogen free available upon request by adding suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Capable of 1.0Watts of Power Dissipation.
- Collector-current 3.0A
- Collector-base Voltage 120V
- Operating and storage junction temperature range: -55°C to +150°C
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

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

Symbol	Parameter	Min	Max	Units
<b>OFF CHARACTERISTICS</b>				
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage ( $I_c=1.0\text{mA}$ , $I_b=0$ )	100		Vdc
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage ( $I_c=10\mu\text{A}$ , $I_b=0$ )	120		Vdc
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage ( $I_e=10\mu\text{A}$ , $I_c=0$ )	6		Vdc
$I_{CBO}$	Collector Cutoff Current ( $V_{CB}=100\text{Vdc}$ , $I_b=0\text{Adc}$ )		1.0	$\mu\text{Adc}$
$I_{EBO}$	Emitter Cutoff Current ( $V_{EB}=4.0\text{Vdc}$ , $I_c=0\text{Adc}$ )		1.0	$\mu\text{Adc}$

### ON CHARACTERISTICS

$h_{FE(1)}$	DC Current Gain* ( $I_c=500\text{mA}$ , $V_{CE}=5.0\text{Vdc}$ )	70	400	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage ( $I_c=1500\text{mA}$ , $I_b=150\text{mA}$ )		0.4	Vdc
$V_{BE(sat)}$	Base-Emitter Saturation Voltage ( $V_{CB}=10\text{Vdc}$ , $I_b=150\text{mA}$ )		1.2	Vdc

### SMALL-SIGNAL CHARACTERISTICS

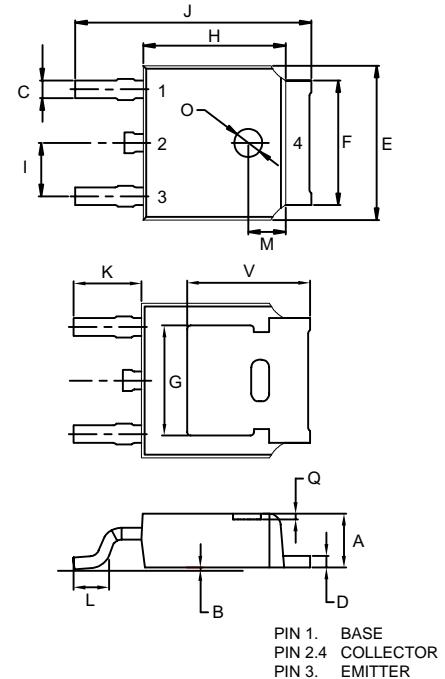
$f_T$	Transistor Frequency ( $I_c=500\text{mA}$ , $V_{CE}=10\text{Vdc}$ )	180(Typ)	MHz
$C_{OB}$	Collector Output Capacitance ( $V_{CB}=10\text{Vdc}$ , $I_b=0$ , $f=1\text{MHz}$ )	25(typ)	pF
$t_{on}$	Turn-on time	100(typ)	nS
$t_s$	Storage time	900(typ)	nS
$t_f$	Fall time ( $V_{CC}=50\text{Vdc}$ , $I_c=1.5\text{A}$ , $I_{b1}=-I_{b2}=-0.15\text{A}$ )	50(typ)	nS

### CLASSIFICATION OF $h_{FE(1)}$

Rank	Q	R	S	T
Range	70-140	100-200	140-280	200-400

## NPN Silicon Epitaxial Transistor

### DPAK



### DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.087	0.094	2.20	2.40	
B	0.000	0.005	0.00	0.13	
C	0.026	0.034	0.66	0.86	
D	0.018	0.023	0.46	0.58	
E	0.256	0.264	6.50	6.70	
F	0.201	0.215	5.10	5.46	
G	0.190		4.83		
H	0.236	0.244	6.00	6.20	
I	0.086	0.094	2.18	2.39	
J	0.386	0.409	9.80	10.40	
K	0.114		2.90		
L	0.055	0.067	1.40	1.70	
M	0.063		1.60		
O	0.043	0.051	1.10	1.30	
Q	0.000	0.012	0.00	0.30	
V	0.211		5.35		

**WWW.mccsemi.com**

## Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 2.5Kpcs/Reel

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

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