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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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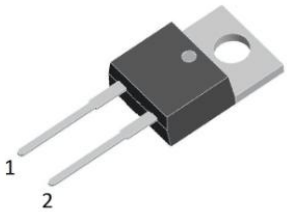
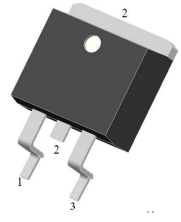
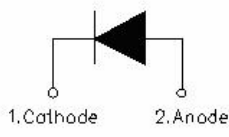
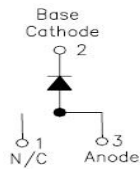
12TQ035/S 12TQ040/S 12TQ045/S SCHOTTKY RECTIFIER

Features

- 150°C T_J operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Applications

- Switching power supply
- Redundant power subsystems
- Converters
- Free-Wheeling diodes
- Reverse battery protection

12TQ...	12TQ...S
	
	
TO-220AC	D ² PAK

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	V _{RRM}	-	35	12TQ035
Working Peak Reverse Voltage	V _{RWM}	-	40	12TQ040
DC Blocking Voltage	V _R	-	45	12TQ045
Average Rectified Forward Current	I _{F (AV)}	50% duty cycle @T _c =120°C, rectangular wave form	15	A
Peak One Cycle Non-Repetitive Surge Current	I _{FSM}	8.3ms, Half Sine pulse	300	A
Non-Repetitive Avalanche Energy	E _{AS}	T _J =25°C, I _{AS} =0.5A, L=60mH	16	mJ
Repetitive Avalanche Current	I _{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T _J max.V _A =1.5×V _R typical	2.4	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V _{F1}	@ 15A, Pulse, T _J = 25 °C @ 30A, Pulse, T _J = 25 °C	0.55 0.61	0.56 0.71	V
	V _{F2}	@ 15A, Pulse, T _J = 125 °C @ 30A, Pulse, T _J = 125 °C	0.45 0.54	0.50 0.64	V
Reverse Current *	I _{R1}	@V _R = rated V _R T _J = 25 °C	0.06	1.0	mA
	I _{R2}	@V _R = rated V _R T _J = 125 °C	4	70	mA
Junction Capacitance	C _T	@V _R = 5V, T _C = 25 °C f _{sig} = 1MHz	700	900	pF
Series Inductance	L _S	Measured lead to lead 5 mm from package body	8.0	-	nH
Voltage Rate of Change	dv/dt	-	-	10,000	V/μs

* Pulse width < 300 μs, duty cycle < 2%

Thermal-Mechanical Specifications:

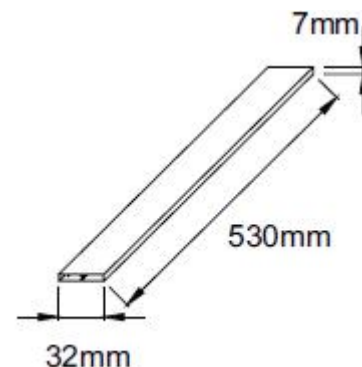
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T _J	-	-55 to +150	°C
Storage Temperature	T _{stg}	-	-55 to +150	°C
Typical Thermal Resistance Junction to Case	R _{θJC}	DC operation	2.0	°C/W
Typical Thermal Resistance Case to Heat Sink	R _{θCS}	Mounting surface, smooth and greased(only for TO-220)	0.50	°C/W
Case Style	TO-220AC D ² PAK			

Tube Specification

Device	Package	Weight	Shipping
12TQ...	TO-220AC	1.8g	50pcs / tube
12TQ...S	D ² PAK	1.85g	800pcs / reel

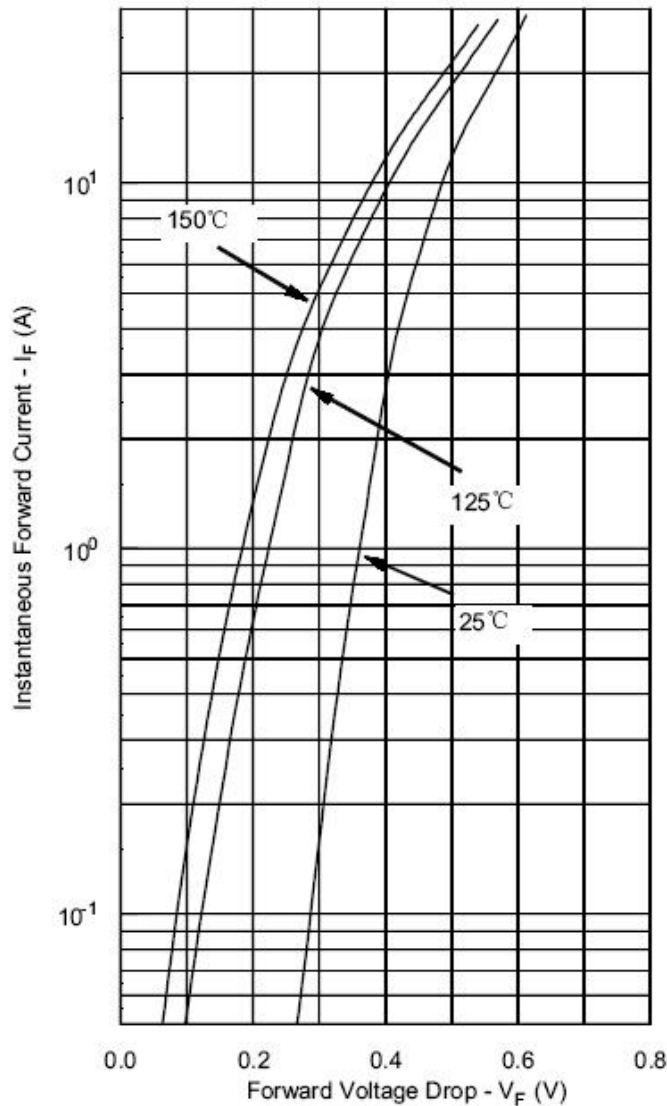
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Tube Specification(TO-220AC)

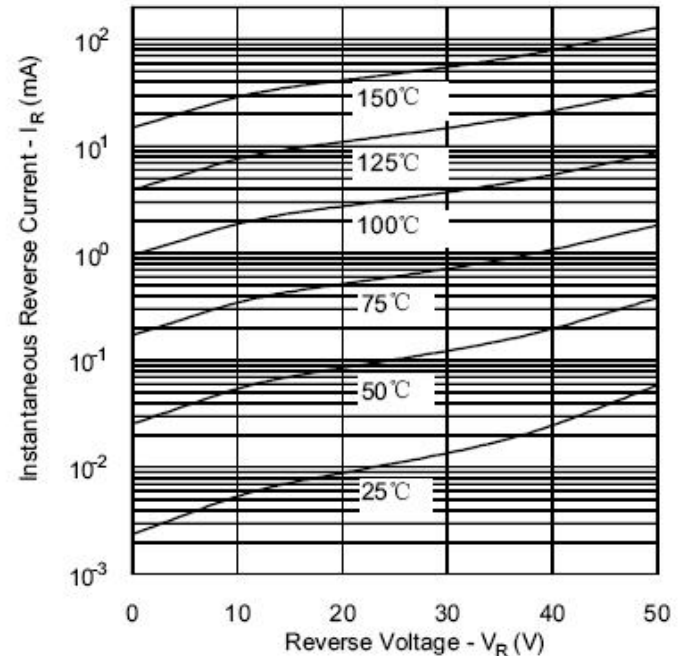


Ratings and Characteristics Curves

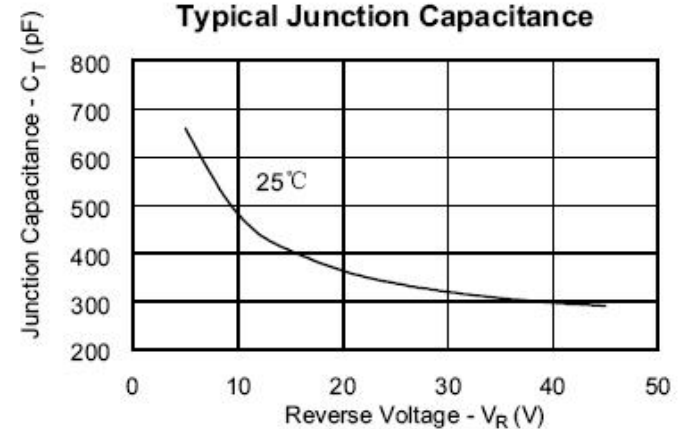
Typical Forward Characteristics



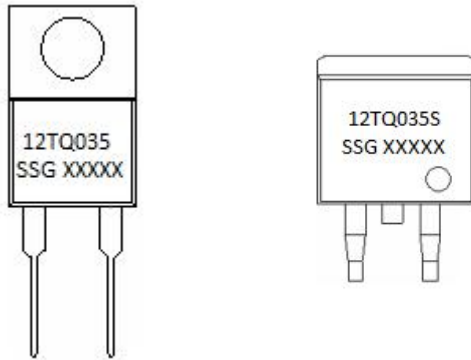
Typical Reverse Characteristics



Typical Junction Capacitance



Marking Diagram

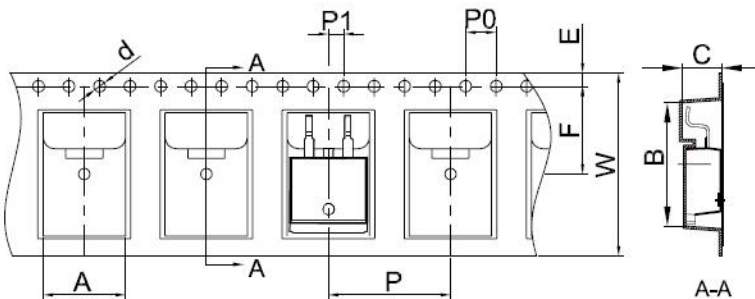


Where XXXXX is YYWWL

12 = Forward Current (12A)
TQ = Device Type
35/40/45 = Reverse Voltage (35/40/45V)
S = Package type
SSG = SSG
YY = Year
WW = Week
L = Lot Number

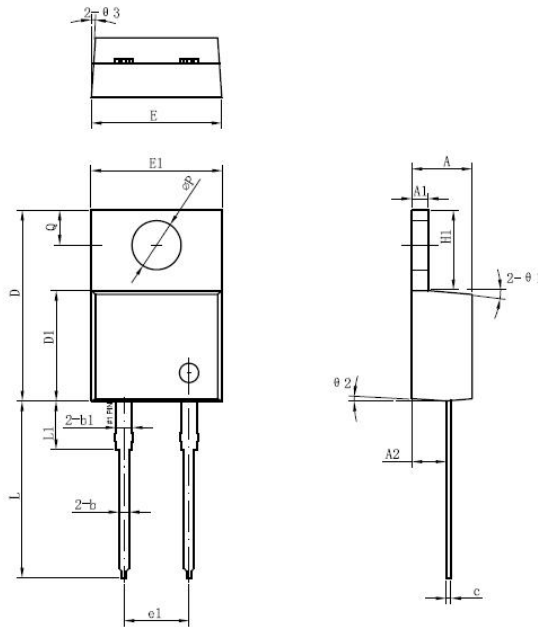
Cautions: Molding resin
Epoxy resin UL:94V-0

Carrier Tape Specification D²PAK



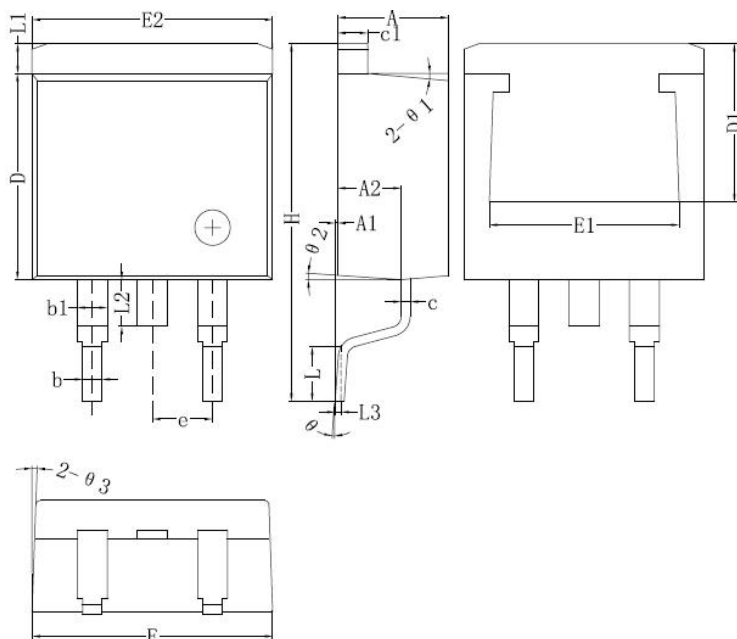
Symbol	Millimeters	
	Min.	Max.
A	10.70	10.90
B	16.03	16.23
C	5.11	5.31
d	1.45	1.65
E	1.65	1.85
F	11.40	11.60
P0	3.90	4.10
P	15.90	16.10
P1	1.90	2.10
W	23.90	24.30

Mechanical Dimensions TO-220AC



Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.47	4.70	4.85
A1	1.17	1.27	1.37
A2	2.52	2.69	2.89
b	0.71	0.81	0.96
b1	1.17	1.27	1.37
c	0.31	0.38	0.61
D	14.64	14.94	15.24
D1	8.50	8.07	8.90
E	10.01	10.16	10.31
E1	9.98	10.18	10.38
e1	4.98	5.08	5.18
H1	6.04	6.24	6.44
L	13.00	13.86	14.08
L1	3.56	3.80	3.96
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
$\theta 1$		5°	
$\theta 2$		4°	
$\theta 3$		4°	

Mechanical Dimensions D²PAK



Symbol	Millimeters		
	Min.	Typical	Max.
A	4.47	4.70	4.85
A1	0	0.10	0.25
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1	1.17	1.27	1.37
c	0.31	0.38	0.61
c1	1.17	1.27	1.37
D	8.50	8.70	8.90
D1	6.40		
E	10.01	10.16	10.31
E1	7.6		
E2	9.98	10.08	10.31
e		2.54	
H	14.6	15.1	15.6
L	2.00	2.30	2.74
L1	1.12	1.27	1.42
L2	1.30		2.20
L3		0.25BSC	
e	0	-	8°
e1		5°	
e2		4°	
e3		4°	

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