



Positive temperature coefficient
Temperature-independent switching
Maximum working temperature at 175 °C
Unipolar devices and zero reverse recovery current
Zero forward recovery current
Essentially no switching losses
Reduction of heat sink requirements
High-frequency operation
Reduction of EMI

Typical applications are in power factor correction(PFC), solar inverter, uninterruptible power supply, motor drives, photovoltaic inverter, electric car and charger.

: TO-247AC
: Tin plated leads
: As marked

($T_C=25$ Unless otherwise specified)

Device marking code			D112040NQG2
Reverse voltage (repetitive peak) @ $T_j=25^{\circ}\text{C}$	V		



Forward voltage drop	V_F	V	$I_F=40A, T_j=25^{\circ}C$	1.41	1.58
			$I_F=40A, T_j=175^{\circ}C$	2.02	
Reverse leakage current	I_R	μA	$V_R=1200V, T_j=25^{\circ}C$	3.1	38
			$V_R=1200V, T_j=175^{\circ}C$	19	
Total capacitive charge	Q_C	nC	$V_R=800V, T_j=25^{\circ}C, Q_C=\int_0^{V_R} I_C(V)dV$	216	
Total capacitance	C	μF	$V_R=0V, f=1MHz$	2900	
			$V_R=400V, f=1MHz$	204	
			$V_R=800V, f=1MHz$	156	
Capacitance Stored Energy	E_C	μJ	$V_R=800V$	55	

$T_a=25$ Unless otherwise specified

Thermal resistance	R_{j-c}	$^{\circ}C/W$	0.34
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(Typical)

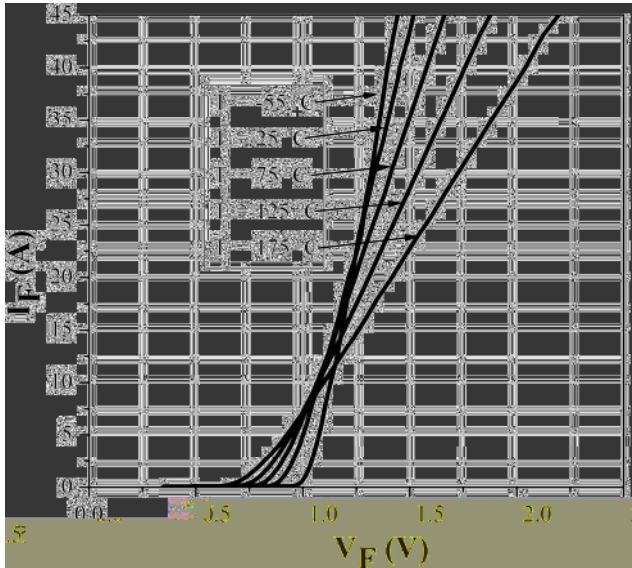


Figure 1. Forward Characteristics

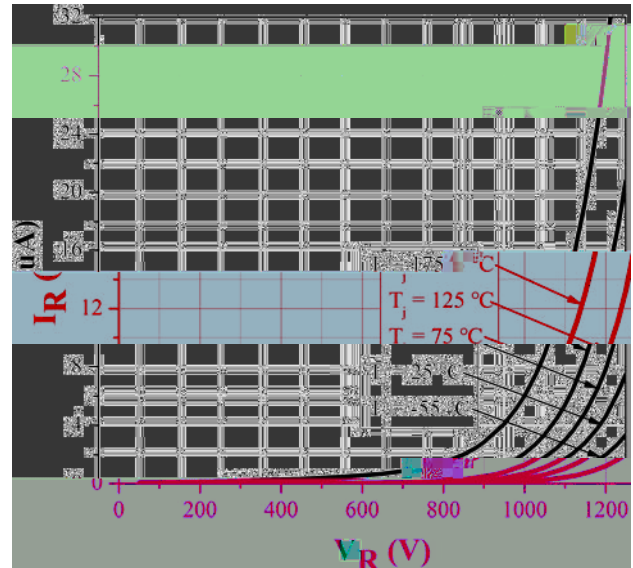


Figure2. Reverse Characteristic

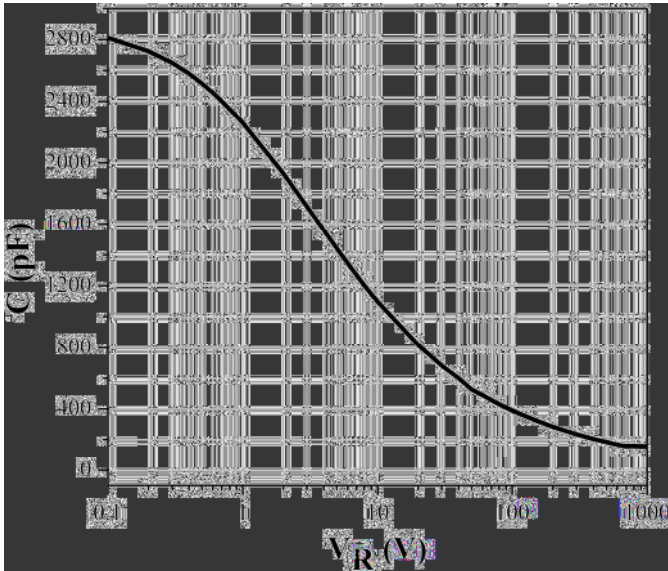


Figure 3. Capacitance vs. Reverse Voltage

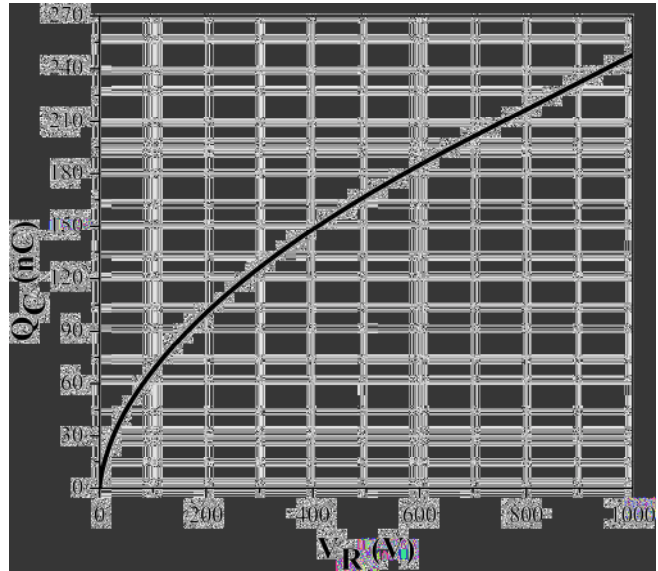


Figure 4. Total Capacitance Charge vs. Reverse Voltage

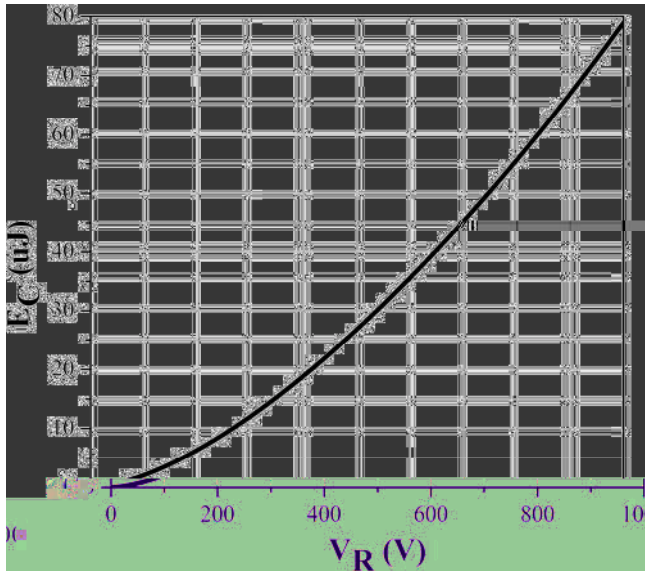


Figure 5. Capacitance Stored Energy

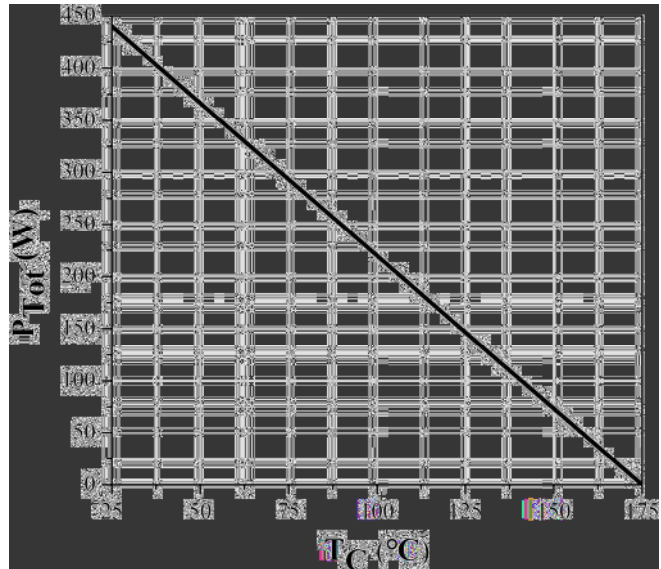


Figure 6. Power Derating

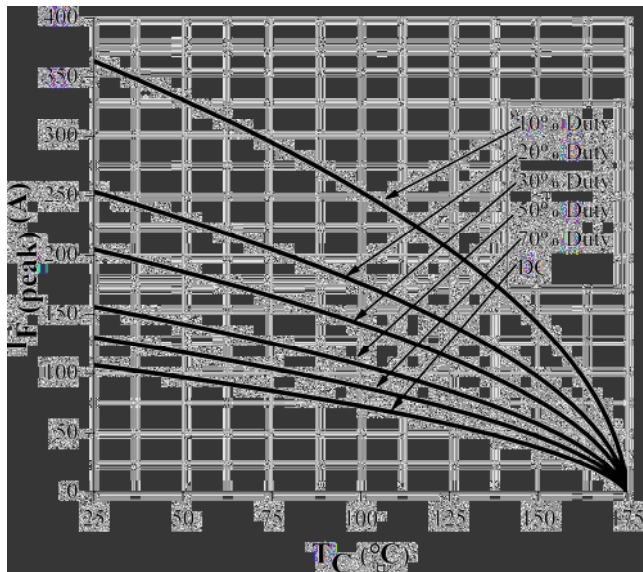


Figure 7. Current Derating

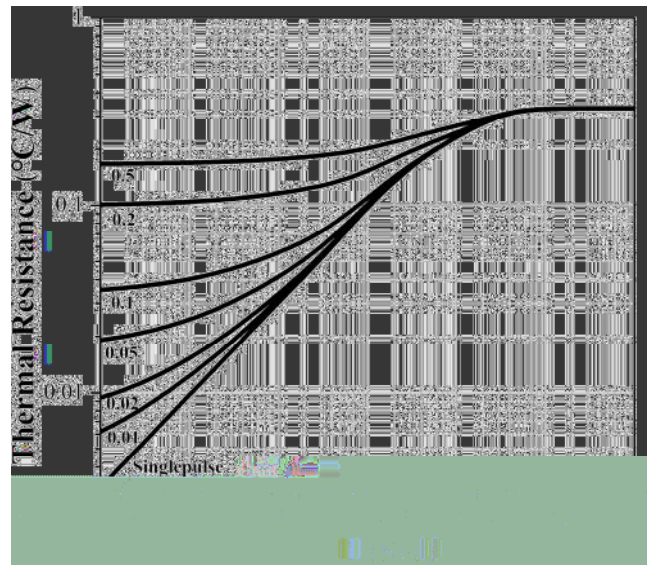


Figure 8. Transient Thermal Impedance

Min	Max
4.80	5.20
2.21	2.61
1.85	2.15



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