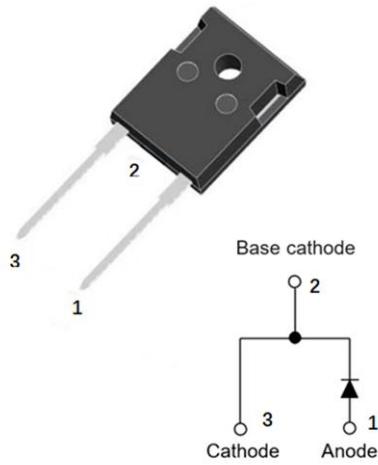


## Silicon Carbide Schottky Diode

$V_{RRM}$	1200V
$I_F(135^\circ C)$	63A
$Q_C$	280nC



### Features

- 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

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

### Mechanical Data

- Package:** TO-247AC  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals:** Tin plated leads
- Polarity:** As marked

### ■Maximum Ratings ( $T_C=25^\circ C$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Device marking code			D112060NYG6
Reverse voltage (Repetitive peak) @ $T_J=25^\circ C$	$V_{RRM}$	V	1200
Reverse voltage (Surge peak) @ $T_J=25^\circ C$	$V_{RSM}$	V	1200
Reverse voltage (DC) @ $T_J=25^\circ C$	$V_{DC}$	V	1200
Continuous forward current @ $T_C=25^\circ C$	$I_F$	A	136
Continuous forward current @ $T_C=135^\circ C$			63
Continuous forward current @ $T_C=138^\circ C$			60
Non-repetitive peak forward surge current @ $T_C=25^\circ C$ , $t_p=10ms$ , Half Sine Wave	$I_{FSM}$	A	470
Power Dissipation @ $T_C=25^\circ C$	$P_{TOT}$	W	500
Power Dissipation @ $T_C=110^\circ C$			216
$i^2t$ Value @ $T_C=25^\circ C$ , $t_p=10ms$	$\int i^2dt$	$A^2S$	1104
Operating junction and Storage temperature range	$T_j, T_{stg}$	°C	-55 to +175

■ Electrical Characteristics ( $T_C=25^\circ\text{C}$  Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min.	Typ.	Max.
Reverse voltage (DC)	$V_{DC}$	V	$I_R=0.25\text{mA}$ , $T_j=25^\circ\text{C}$	1200	—	—
Forward voltage	$V_F$	V	$I_F=60\text{A}$ , $T_j=25^\circ\text{C}$	—	1.45	1.65
			$I_F=60\text{A}$ , $T_j=175^\circ\text{C}$	—	2.05	—
Reverse current	$I_R$	$\mu\text{A}$	$V_R=1200\text{V}$ , $T_j=25^\circ\text{C}$	—	4	25
			$V_R=1200\text{V}$ , $T_j=175^\circ\text{C}$	—	160	—
Total capacitive charge	$Q_C$	nC	$V_R=800\text{V}$ , $T_j=25^\circ\text{C}$ , $Q_C=\int_0^{V_R} C(V)dV$	—	280	—
Total capacitance	C	pF	$V_R=0\text{V}$ , $f=1\text{MHZ}$	—	3963	—
			$V_R=400\text{V}$ , $f=1\text{MHZ}$	—	262	—
			$V_R=800\text{V}$ , $f=1\text{MHZ}$	—	207	—
Capacitance stored energy	$E_C$	$\mu\text{J}$	$V_R=800\text{V}$	—	80	—

## ■ Thermal Characteristics

PARAMETER	SYMBOL	UNIT	VALUE
Thermal resistance	$R_{\theta J-C}$	$^\circ\text{C}/\text{W}$	0.30

## ■ Typical Characteristics (Typical)

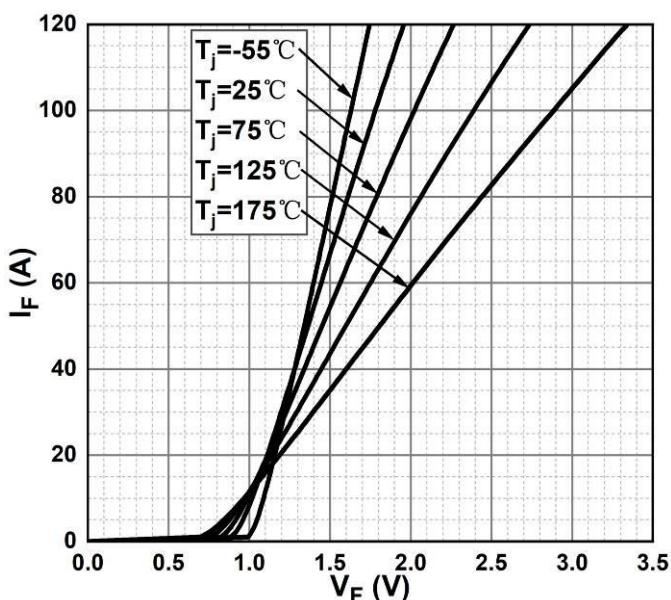


Figure 1. Forward Characteristics

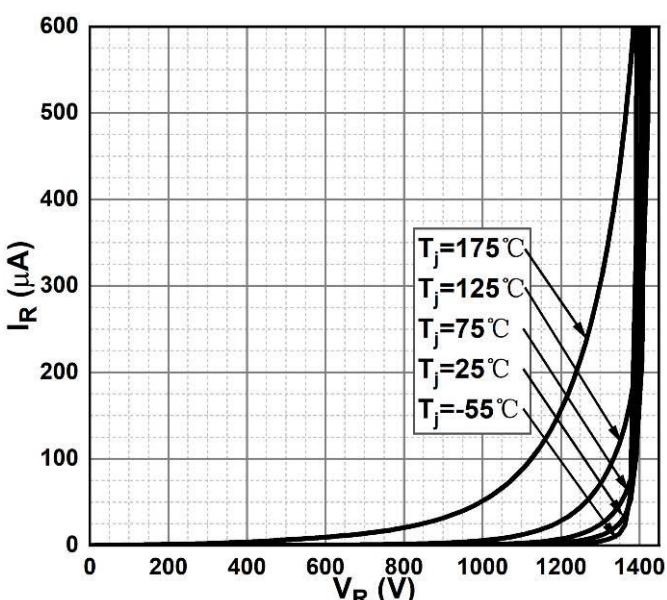
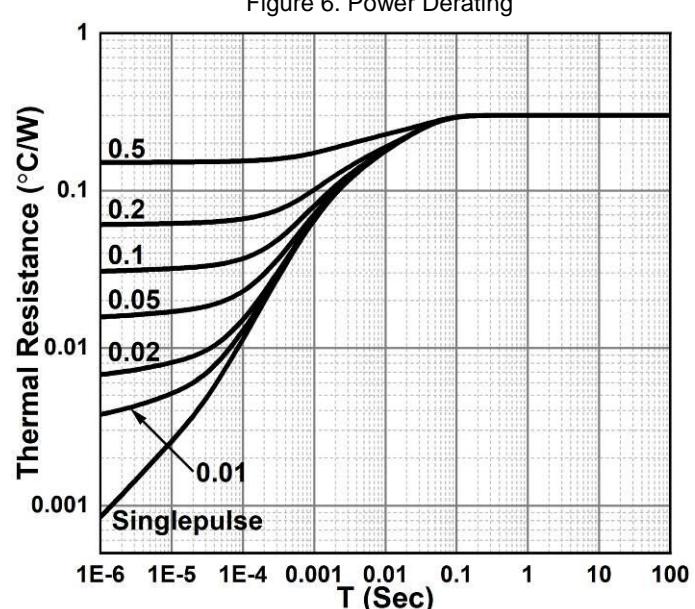
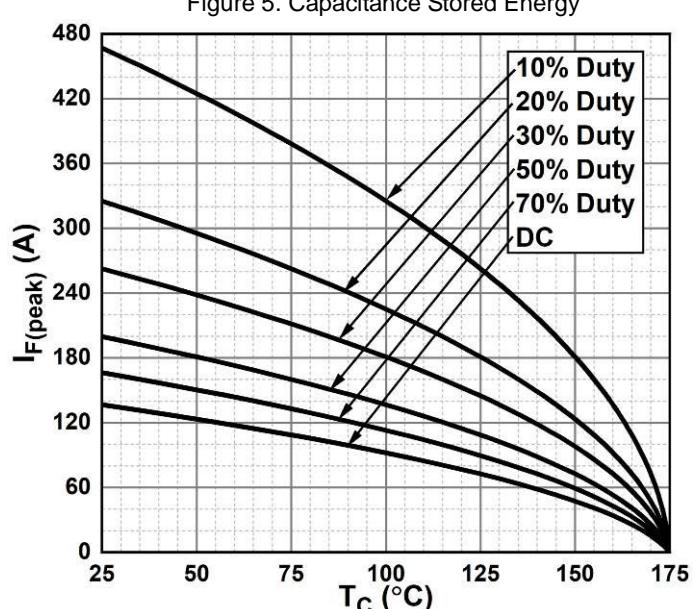
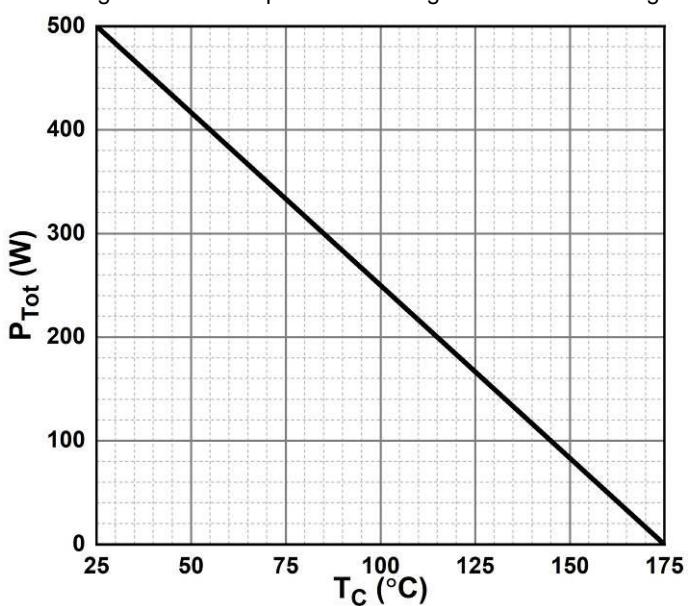
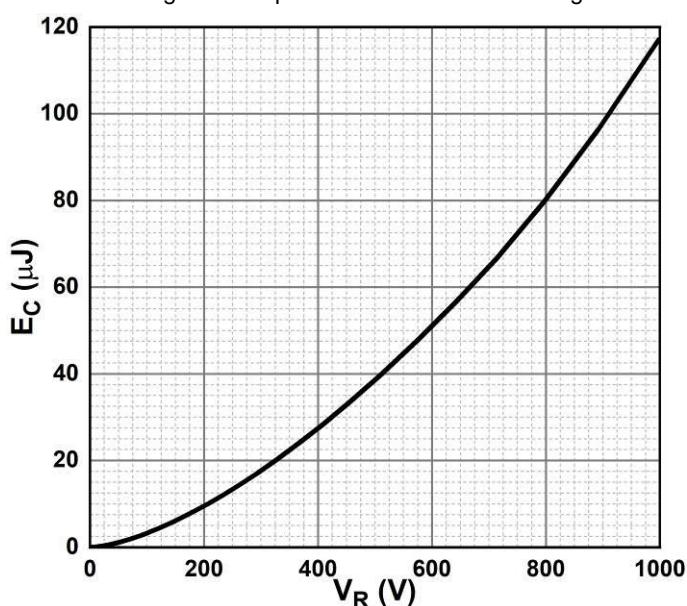
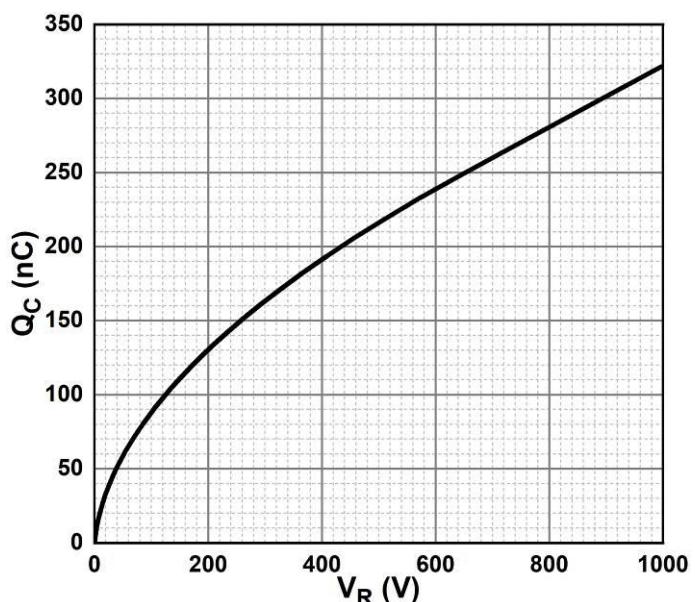
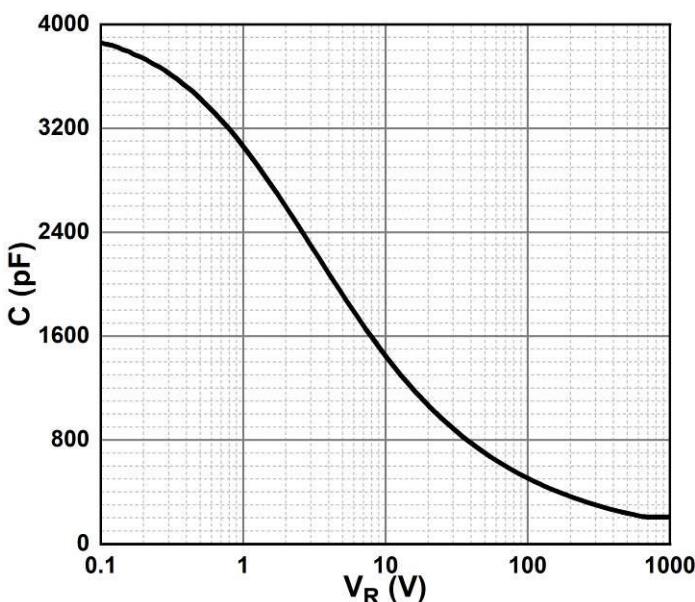


Figure 2. Reverse Characteristics

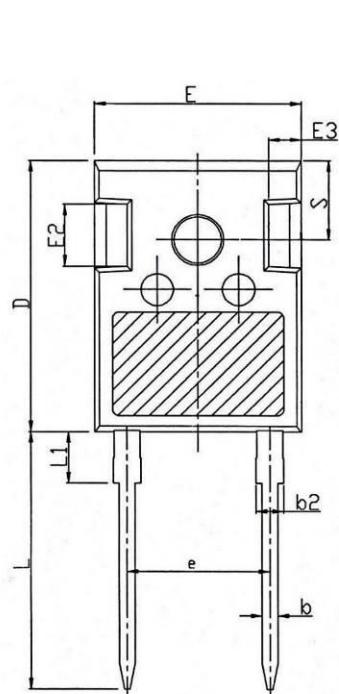


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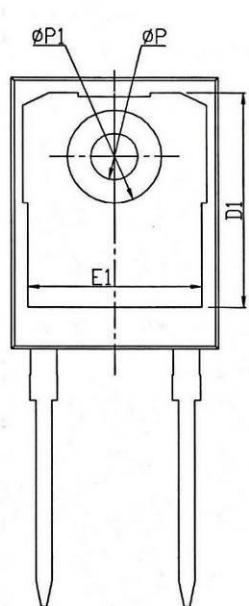




## ■Outline Dimensions



TO-247AC



TO-247AC		
Dim	Min	Max
A	4.80	5.20
A1	2.21	2.61
A2	1.85	2.15
b	1.11	1.36
b2	1.91	2.21
c	0.51	0.75
D	20.70	21.30
D1	16.25	16.85
E	15.50	16.10
E1	13.00	13.60
E2	4.80	5.20
E3	2.30	2.70
e	10.88BSC	
L	19.62	20.22
L1	-	4.30
ØP	3.40	3.80
ØP1	-	7.30
S	6.15BSC	



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