

1200 V, 1.4 V, 25 A

# AFGHL25T120RW

### Description

Using the novel field stop 7th generation IGBT technology in TO247 3 ead package, this device offers the optimum performance with low on state voltage and minimal switching losses for both hard and soft switching topologies in automotive applications.

#### **Features**

Extremely Efficient Trench with Field Stop Technology Maximum Junction Temperature  $T_J = 175 \text{ C}$  Short Circuit Rated and Low Saturation Voltage Fast Switching and Tightened Parameter Distribution AEC Q101 Qualified, PPAP Available Upon Request This Device is Pb Free, Halogen Free/BFR Free and is RoHS Compliant

#### **Applications**

Automotive E compressor
Automotive EV PTC Heater
OBC

#### MAXIMUM RATINGS (T<sub>J</sub> = 25 C unless otherwise noted)

			,			
	Parameter		Symbol	Value	Unit	
Collector-to-En	litter Voltage		$V_{CE}$	1200	V	
Gate-to-Emitte	Voltage		$V_{GE}$	20		
Transient Gate-	to-Emitter Voltage			30		
Collector Currer	nt	T <sub>C</sub> = 25 C		Ic	50	Α
		T <sub>C</sub> = 100 C			25	
Power Dissipation	on	T <sub>C</sub> = 25 C		$P_{D}$	468	W
		T <sub>C</sub> = 100 C			234	
Pulsed Collecto	r Current	$T_{C} = 25 \text{ C},$ $t_{p} = 10  \mu\text{s}  (No$	ote 1)	I <sub>CM</sub>	75	Α

1

Short Circuit Withstand Time

 $V_{GE} = 15 \text{ Vime}$ 

### THERMAL CHARACTERISTICS

Parameter	Symbol	Value	Unit
Thermal Resistance, Junction-to-Case IGBT		0.32	C/W
Thermal Resistance, Junction-to-Ambient		40	C/W

# ELECTRICAL CHARACTERISTICS ( $T_J = 25$ C unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Тур	Max	Unit
OFF CHARACTERISTICS						
Collector-to-Emitter Breakdown Voltage	BV <sub>CES</sub>	$V_{GE} = 0 \text{ V}, I_C = 1 \text{ mA}$	1200	-		

# TYPICAL CHARACTERISTICS

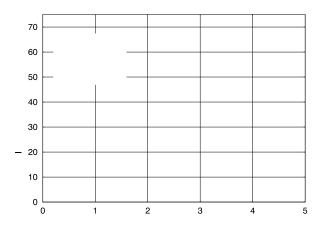


Figure 1. Output Characteristics

Figure 2. Output Characteristics

# TYPICAL CHARACTERISTICS

